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CONTROL BY CHARM

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Editor's note: We all seek happiness and security. The author presents another of his papers on this important subject.

CIVILIZED people are pushed around by their neighbors just as primitive people are pushed around by uncontrolled temperatures and germs. Through science civilized man has discovered how to control many of the forces that upset primitive man. But unexpected social events still upset the peoples of the world.

When physical forces have upset the people of the western world, scientists discovered the causes of the upset and worked out ways to control them. Man masters physical energy through the discoveries of exact science. But scientists have not been free to search for the causes of upset which stem from the mischievous behavior of human beings.

The main source of upsetting human behavior is the inability of people to satisfy their basic needs.[1] One of these is the need for predictable and favorable surroundings in which to live.

Each human being, from his first day in the outer world, starts controlling the people around him. When a tiny baby makes a noise, the people nearby respond to it. The little fellow starts early to control the people around him; he makes them react to him predictably.

As the baby grows through childhood and adolescence to adulthood, he learns to employ a variety of methods for getting favorable reactions from the people around him. Some of these methods are employed by the people

[1] See R. Morey. "The Basic Needs of Man in Society," *Journal of Educational Research*, XXXIV (September, 1940), 1–14; especially p. 5.

of all societies the world over. Thus, money, threats, traditions and other means of control are used by all people to get predictable and favorable reactions from their neighbors.

CONTROL BY MONEY

Money is probably the most frequently employed method of controlling behavior. Yet, it is one of the least satisfactory methods. The responses that money can buy are often superficial; they seldom endure. Thus, the mechanical smile of a chauffeur is neither deep nor enduring. If his salary is cut, the smile grows faint. If his salary is stopped, the smile is turned off, like water from a faucet when a water bill is overdue. A mechanical smile is a mere surface reaction; it is not supported by the canalyzed nerves and muscles that lay deep within the reacting body. A mechanical smile flits uncertainly on the surface, while the mental life of the individual, that controls his predictable actions, carries on steadily underneath. An impulse working deeply in the nervous system of the man with a mechanical smile may whip up at any moment and wipe the smile from his face.

Servant trouble is a common complaint in homes where servants are controlled mostly by money. Too often it happens that a tired business man comes home to dinner and his wife's complaint, "We'll have to fire the chauffeur. His smile is getting gray. He's efficient. But I can't stand having his lifeless smile around any longer." The chauffeur's smile was gray for many reasons: his daughter needs dental care, a bridge for her teeth; his wife insists on getting a refrigerator to keep the family food fresh in the dirty city air; his son wants money for books at school. And he thinks he better give up smoking, for it may be ruining his health. He can't afford to ask a doctor, for he can't pay the dentist, the electrician, and the school on his slim salary. Making ends meet makes his smile gray. He touches his hat, he bows. But his smile doesn't last. A smile that lingers is seldom the product of payment of a price. Smiles bought on the market, for money only, often are not enduring.

CONTROL BY THREATS

People in any society can be controlled by threats. Hitler often gets his way with weaker people by threatening them. Fahnboolay, a thief and government official in Liberia, forces native chiefs to send him hundreds of

hampers of rice beyond their tax due by threatening to break any who refuse. They usually send the rice. Threats of all sorts operate in this world everyday, and control the behavior of dependent people.

But threats generate opposition in their victims. Favorable reactions elicited by threats endure only as long as the victim is unable to find another solution to his problem of avoiding misery. In a complex civilization, other solutions are usually at hand. Thus, in democratic western countries, where slavery is illegal, the victim can simply escape, avoiding misery by running away from the place controlled by his oppressor. In Liberia where slavery still exists, and in modern Germany, the victim cannot run away successfully; in Lomaland, Liberia, the victim may avoid the misery threatening him by poisoning his oppressor. In Germany it will take a revolution, aided from the outside, to free Nazi-controlled people. In America, threatened persons unite and make counterthreats; some threatened Americans unite in unions to free themselves from threats; they may strike or hire a lawyer.

Threats generate counterthreats and are liable to provoke unfavorable responses in the victim. A menaced victim may not let himself be so controlled; he may counterattack physically, or he may go after the threatener through the courts. A threatened person, no matter how weak he may be, looks for some way to hurt the threatener; he usually finds such a way. For this reason controlling another person's behavior by threats is unsatisfactory; it rouses the victim to unpredictable and unfavorable activity.

CONTROL BY TRADITION

In societies where science and technology shape so much of human life change is rapid and frequent. When these dynamic forces are blocked by tradition, unpredictable upsets occur in conventional controls of human conduct. Too many traditions bolster old habit grooves which have to be changed to let new habits develop. When a tradition is out of tune with new ways of satisfying our basic needs, the conflict between the traditional habits and the new ones may create strain inside us and eventually break over into upset. Persons who blindly follow traditions which hinder understanding and learning, suffer from inability to get favorable reactions from their unpredictable neighbors when they do not understand.

CONTROL BY CHARM

Charm is of three kinds. In passive charm a neighbor is not opposed in some action that he proposes or is engaged in; the individual exhibiting this low quality of charm does not in any way block the actions of the responding neighbor; the charming person is neutral, neither actively supporting his neighbor's response nor opposing it. He simply lets the response carry on unopposed. He does not punish and he does not reward the responder, except insofar as the absence of punishment is a reward.

Suppose, for example, a man and his wife are preparing for bed as the clock nears midnight. The man suddenly remembers that his favorite symphony was being broadcast. Remarking that the Scheherazade was on the air, he snapped the radio into life. She was tired from an afternoon of shopping. She wanted to sleep. She also didn't want to interrupt his wish to hear the symphony. She simply undressed and went to bed, without protest and without open approval by smile or word of his interest in a long symphony. She revealed in her quiet acceptance of his action, and in not opposing it, the third degree of charm, called passive charm.

A more attractive type of charm involves support on the part of the charming person of another's action. It may be called active charm. The helpful smile, and the approving word and gesture are often a part of active charm. A friendly, agreeable person, who supports what we do with a smile, or other sign of approval, reveals active, cooperative charm. This is the most common type of charm, through which a person helps his neighbor carry out a graceful and pleasant response.

In the case of the husband and tired wife going to bed at a late hour, by using active charm, the tired wife smiles her approval, thereby facilitating her husband's interest in and increasing his pleasure from his action of turning on the music. Her contribution to his pleasure was active, not passive; she did nothing original, but her approval was made evident through a surface approval easily turned on. It might be called empathetic charm. The approving wife felt herself into the wish of her husband, and facilitated his carrying it out.

The finest type of charm is creative. It is based on understanding of the fortunate person whom it favors. An ingredient in addition to understanding is the desire and ability to help another carry out pleasant and

satisfying actions. Creative charm reaches deeply into the charming person's mind, and brings profound intelligence into play. To understand another person, however simple that person may be, requires an intelligence that is apparently rare. Creative charm is often not spontaneous; it may require profound analysis of another person's habits and wishes. It is the rarest type of charm; not easy to acquire.

Creative charm encourages actions that may eventually produce enduring pleasures, regardless of the pleasurableness of the immediate action elicited. Sometimes the person showing this sympathetic creative charm actually upsets a poorly oriented individual in order that the victim can be headed in another direction which will yield more enduring pleasure than would follow without the orientation. This sort of rebuilding of habits does not *often* appear in creative charm. Usually, a person of creative charm, selects for approval those joyful actions which are already gaily underway and which will continue to produce pleasure as the person lives on.

Returning to the man and wife and music, the picture changes in creative charm. The tired wife, knowing her husband's casual taste for music and his liking for the Scheherazade, had quietly studied music appreciation; she had discovered several new aspects of symphonies that pleased her. When her husband turned to music, regardless of the hour and her fatigue, she joined him with words of approval. And quietly, she roused his curiosity with a neat comparison between a part of the piece they were hearing and a part of Beethoven's Seventh Symphony. The next day he brought home records of Beethoven's Seventh and played them to her, tracing the interesting contrast. Their interest developed. Ten years later one of their most fascinating friends was a composer. And his friends, whom they met from time to time, brought both of them ideas and interests which made their lives much more joyful than they otherwise would have been.

Naturally, they could not have followed this interest in music if they had not been able to buy music and recordings. A basic condition for charm of any sort, is some degree of security. Of course, a few people living in the insecurity of slums are charming individuals. But persons unable to forget themselves, because of insecurity or faulty training, frequently fail to generate in others the favorable responses that are produced by charm. Control of the behavior of others by charm is possible only where

the charming person is sufficiently secure so that his nervous system with its allied organs can respond freely, fully and favorably when he is stimulated.

Charm involves supporting the other person's action by, not, opposing it, or by approving it, or by helping it to develop gracefully.

The best way to get favorable responses from the people around us is through charming behavior based on understanding of their basic needs. Knowledge of these needs is not easy to get. To discover such truth, beyond the screen of false and misleading pretenses around us, requires penetrating insight and scientific study of human behavior. Since all human beings seek predictable, and favorable, surroundings, and since a man's neighbors react to him most predictably and favorably when he stimulates them with creative charm, grounded on fundamental understanding of their interests and actions; then it seems to be the duty of teachers to arouse and train into their students, both young and old, the fundamental habits of scientific thinking, the habit of curiosity and the habit of comparing, so that all of us can get more of what we seek.

COLLEGE STUDENTS INTEREST IN BIOLOGY

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Editor's note: One finds in the literature of education many reports of the efforts of educationalist to reorientate the schools program of activities to new studies of pupil needs. The author presents a study of the interests of college students in biological materials as a contribution to these efforts.

With the gradual shift of emphasis in education from the mastery of subject matter as an end in itself to the careful reconsideration of the needs of students, a paramount problem in education becomes that of determining these needs. Not until we have a more adequate understanding of these needs will our teaching become really effective. Although the sources of materials relative to needs are many, each is an important aid in obtaining a full picture. Student interest is one of these aids. Nearly all the available material on student interest in biology has come from below the college level, a study thus at the college level appears important.[1]

In a study to determine student interests at the college level, an interest-information check list pertinent to the materials in the course was given to students entering the beginnning zoology and botany courses. The zoological interest-information check list contained 200 topics distributed over a wide range of zoological subjects and was given to 133 students. The botanical interest-information check list of 173 topics was related to a wide range of botanical subjects and was given to 109 students. In the construction of the check lists the field of biology was divided into eighteen major divisions. These divisions were: (1) inheritance and variation, (2) development in organisms, (3) physiology of organisms, (4) organic evolution, (5) economic aspect of biology, (6) morphology of organisms, (7) ecology of organisms, (8) uses of biological information, (9) philosophy of biology, (10) methods used in the study of biology, (11) inter-relationship of biology to other fields of learning, (12) sources of biological information, (13) distribution of organisms, (14) vocational opportunities in biology, (15) classification of organisms, (16) biology and its subdivisions, (17) historical aspects of biology, (18) centers of biological research and their contributions.

[1] F. L. Fitzpatrick. *Science Interests*. New York: Bureau of Publications, Teachers College, Columbia University, 1936. Pp. 1–20.

Each major division was divided into as many zoological or botanical topics as it was deemed desirable in order to cover the range of the division. The students were asked to rate each topic as follows: (1) much interest in the topic, (2) mild interest in the topic, or (3) no interest in the topic. On these bases, student ratings for each topic were made. The average of the topic ratings in each division gave the division rating.

In an attempt to understand if the students interest or lack of interest was due to knowledge he possessed about the topics, a test containing a test item pertinent to each topic was given at the same time as the interest-information check list. Percentage ratings were made for each test item. The average percentage ratings for the test items pertinent to the topics in a division give the division test rating.

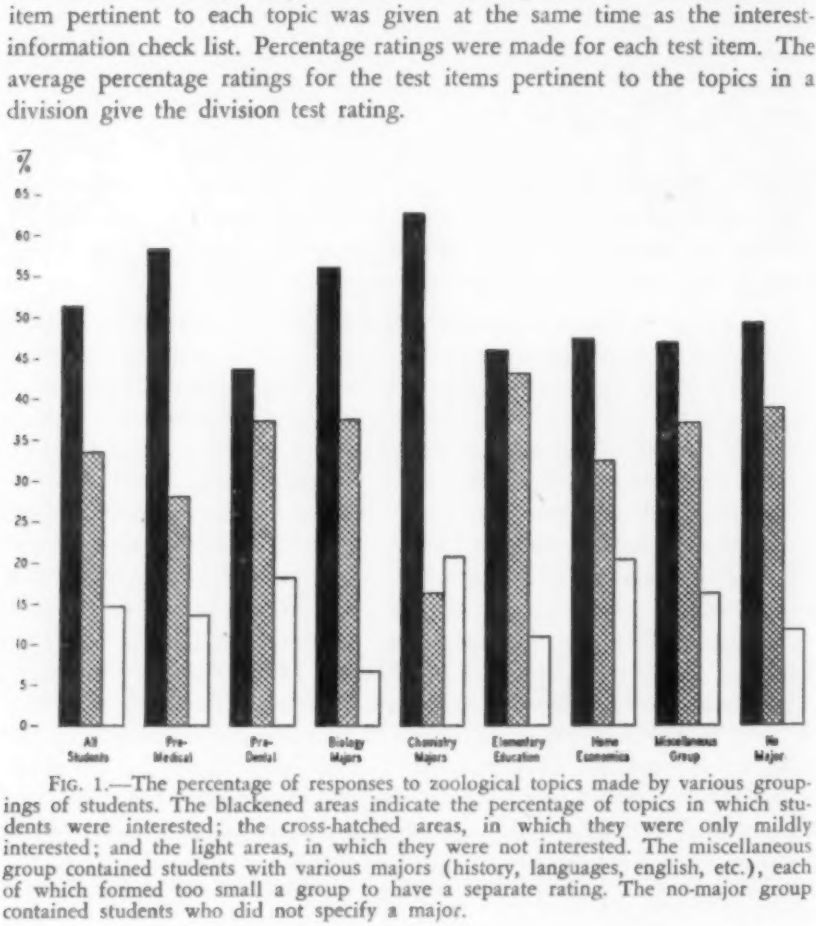

FIG. 1.—The percentage of responses to zoological topics made by various groupings of students. The blackened areas indicate the percentage of topics in which students were interested; the cross-hatched areas, in which they were only mildly interested; and the light areas, in which they were not interested. The miscellaneous group contained students with various majors (history, languages, english, etc.), each of which formed too small a group to have a separate rating. The no-major group contained students who did not specify a major.

PRESENTATION AND DISCUSSION OF RESULTS

Interests in the zoological topics by various groups of students are shown in Figure 1. It will be observed from the figure that there is a definite grouping of interests. The majority of topics (blackened areas) were of interest to all the groups. The average topic interest was 51.43 per cent. The chemistry majors were interested in the largest number of topics (62.87 per cent), followed closely by the pre-medical group (58.39 per cent) and the biology majors (56.01 per cent). The pre-dental group, with a topic interest of only 44.74 per cent, was the lowest group. The interests of the elementary education majors, home economic majors, miscellaneous group and no-major group were between the biology majors and the pre-dental group. Topics which had a mild interest (cross-hatched areas) were next in line, with an average of 33.76 per cent. The elementary education majors had the highest mildly interested percentage (43.08), while the chemistry majors exhibited the lowest percentage (16.15). The other groups occupy a position between these two extremes. The percentage of topics in which no interest was manifested (light areas) was relatively low. The average for these areas was only 14.81 per cent. The biology majors with 6.61 per cent ranked lowest, while the chemistry majors with 20.98 per cent and the home economic majors with 20.24 per cent vie closely for the highest average.

Table I shows the distribution of interest in the zoological divisions. Certain divisions, such as inheritance and variation, development in animals, physiology, organic evolution, economic aspect of zoology, and morphology have a high interest rate; while other divisions, such as centers of zoological research and their contributions, historical aspect of zoology, biology and its subdivisions, classification of animals, vocation opportunities in zoology, and distribution of animals have a lower interest rate. The remaining divisions fall between these extremes. The range of interest was from 79.02 per cent to 29.40 per cent, with an average of 51.43 per cent. The mild and non-interest rates increased as the interest rate decreased. The range of mild interest was from 17.15 per cent to 47.98 per cent, while the range of non-interest was from 2.32 per cent to 30.13 per cent. The lowest non-interest was shown in divisions on development in animals, inheritance and variation, and physiology; and the highest non-interest rate in divisions on vocational opportunities, historical aspects of zoology, and centers of zoological research and their contributions.

TABLE I

DISTRIBUTION OF THE MAJOR DIVISION INTERESTS AND DIVISION TEST RATINGS IN ZOOLOGY

Major division number*	Interested per cent	Mildly interested per cent	Not interested per cent	Division test rating** per cent
1	79.02	17.15	3.83	40.60
2	78.65	19.03	2.32	38.65
3	71.50	23.31	5.19	23.30
4	68.11	22.60	9.29	9.26
5	60.97	26.52	12.51	22.70
6	55.82	31.54	12.64	30.53
7	54.96	36.70	8.34	24.30
8	54.21	37.45	8.34	20.17
9	52.71	32.19	15.10	26.64
10	51.20	31.44	17.36	23.63
11	44.44	33.69	21.87	23.02
12	43.69	41.96	14.35	18.17
13	39.43	41.21	19.36	20.29
14	37.68	32.19	30.13	23.30
15	37.67	41.97	20.36	28.19
16	36.92	44.22	18.86	10.52
17	29.41	46.47	24.12	33.08
18	29.40	47.98	22.62	9.77
Average	51.43	33.76	14.81	23.67

* The division numbers correspond to the major divisions given in the introduction.
** The division test ratings are the percental averages of the number of test questions marked correctly.

It is important to know the reasons for the interest in the different divisions. Why were the students interested in certain divisions and mildly or not interested in others? Was it because of knowledge they possessed about the division or because of some other reason? The division test ratings (Table 1) give a partial answer to these questions. The data show that the test ratings are varied and low. The highest test rating was 40.60 per cent while the lowest was 9.26 per cent. The average for all the division test ratings was only 23.67 per cent. Except for the two highest ratings (inheritance and variation, and development in animals) and a low rating (centers of zoological research and their contributions), there appears to be only a scattered relationship between division interests and test ratings. The division test rating for historical aspects in zoology was third in line although the interest rate was second from the lowest. The test ratings as a whole indicate that knowledge alone plays but a minor rôle in determining interest and that interest or lack of interest must be based largely on other reasons.

TABLE II

DISTRIBUTION OF THE MAJOR DIVISION INTERESTS AND DIVISION TEST RATINGS IN BOTANY

Major division number*	Interested per cent	Mildly interested per cent	Not interested per cent	Division test rating** per cent
1	48.60	37.77	13.63	27.01
2	46.94	39.44	13.62	24.60
3	43.47	41.82	14.71	15.28
4	43.48	38.42	18.10	17.16
5	40.43	40.46	19.11	20.20
6	46.79	38.23	14.98	26.34
7	31.68	44.07	24.25	9.60
8	47.08	27.02	25.90	23.99
9	42.63	35.55	21.82	14.92
10	34.00	56.86	9.14	13.27
11	48.68	29.28	22.04	33.29
12	29.17	49.33	21.50	15.13
13	34.44	42.42	23.14	16.67
14	27.09	41.17	31.74	11.53
15	42.13	36.19	21.68	17.16
16	26.31	47.35	26.36	20.10
17	22.97	51.78	25.25	13.77
18	32.15	39.91	27.94	10.00
Average	38.22	40.85	20.83	18.33

* The division numbers correspond to the major divisions given in the introduction.
** The division test ratings are the percental averages of the number of test questions marked correctly.

An analysis of topic interests gives the key which unlocks the reasons for the division interest. An analysis shows that topic interests fall in four general groups: (1) information that is applicable to immediate needs, (2) striking topics which excite curiosity, (3) materials applicable to a particular vocation, and (4) desire to know more about certain aspects of zoology. Students are interested in topics which have a direct application to themselves, such as the structure and function of tissues, organs and organ systems in the human body, development of various parts of the human body, importance of hormones and vitamins to life, causes and treatment of diseases, food requirements of the body for maintenance and health, etc. Topics of interest through curiosity were: origin of life, evidences of evolution, methods used in the development of new types of animals, characteristics of living matter, future of the human race, etc. Vocational interest of students were strong. The pre-medical students show a high interest rate for all topics pertaining to medicine, the chemistry majors for chemical aspects of biology, the home economic majors for the value and uses of foods in the human body, and the biology majors for those topics with a vocational implication,

etc. In a few cases a high correlation was evident between high interest rate and high test ratings, indicating that some interest is based on a previous knowledge about the topic. The low general interest rate in certain divisions, as centers of zoological research and their contributions, historical aspects of zoology, zoology and its subdivisions, vocational opportunities in zoology, etc., may be explained in part by the low percentage (7.52) of biology majors as compared to a high percentage (49.62) of non-science majors in the group of experimental students.

Interests in the botanical topics by various groups of students are given in Figure 2. The data show that although a wide variation is evident, there is a definite grouping of interests. For all students, the topics of interest (blackened area) were slightly below the topics of mild interest (cross-hatched area) and considerably above the topics with no interest (light area). The elementary education majors, miscellaneous group, biology ma-

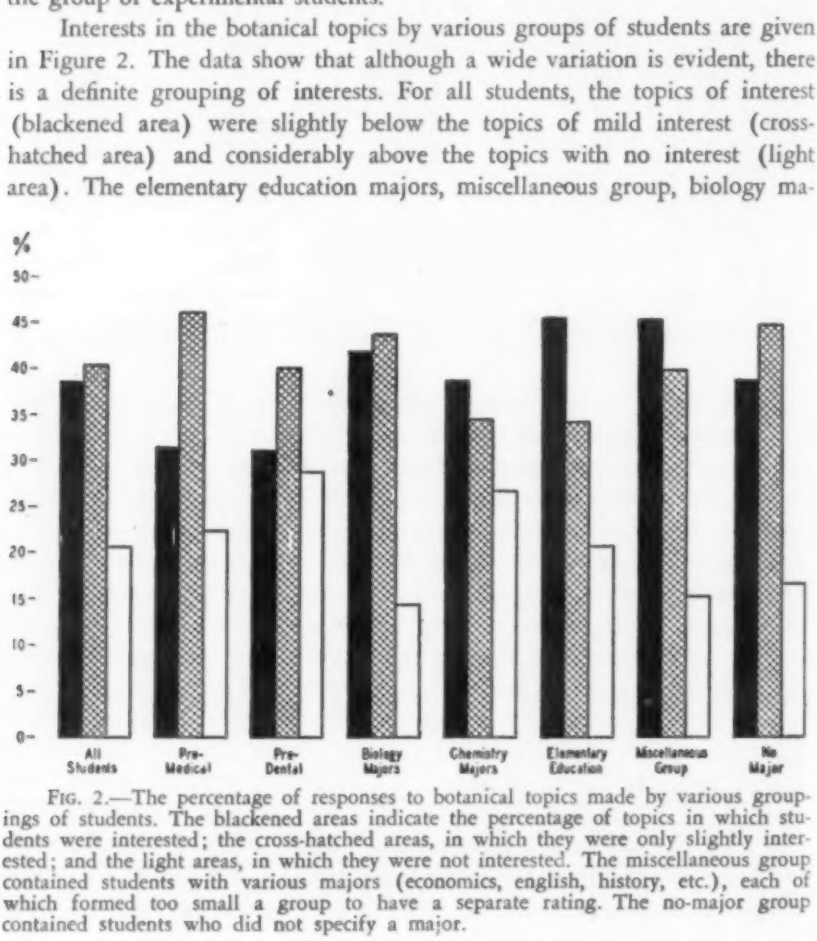

FIG. 2.—The percentage of responses to botanical topics made by various groupings of students. The blackened areas indicate the percentage of topics in which students were interested; the cross-hatched areas, in which they were only slightly interested; and the light areas, in which they were not interested. The miscellaneous group contained students with various majors (economics, english, history, etc.), each of which formed too small a group to have a separate rating. The no-major group contained students who did not specify a major.

jors, no major group, and chemistry majors showed the highest botanical interest rate; while the pre-dental and pre-medical groups show a lower interest. In the number of topics of mild interest, the pre-medical, no-major, and biology groups were above the average for all students, while the elementary education majors, chemistry majors, no-major group, and the pre-dental majors were below the average for all students. The pre-dental group had the highest no-interest percentage, followed closely by the chemistry majors; while biology majors and the miscellaneous group show the lowest non-interest percentage.

A comparison of the data given in Figures 1 and 2, show that zoological topics have a higher percentage interest than the botanical topics. While in zoology the topics of interest were above those of mild interest, the reverse was true in botany. Also, the no-interest rate was lower in zoology than in botany. In zoology the highest interest rate was shown by chemistry majors, pre-medical group, and biology majors; while in botany the elementary education majors, miscellaneous group, and biology majors ranked the highest. The biology majors were the only group to rank above the average for all students in both zoology and botany. The pre-dental group had the lowest interest rate in both zoology and botany.

The distribution of interests in the botanical divisions is shown in Table II. The divisions on interrelationships of botany to other fields of learning, inheritance and variation, uses of botanical information, development in plants, morphology of plants, physiology of plants, and evolution in plants have high percentage interests; while historical aspects of botany, botany and its subdivisions, vocational opportunities in botany, sources of botanical information, plant ecology, and centers of botanical research and their contributions have lower percentage interests. The range of interest in the division was from 48.60 per cent to 22.97 per cent, with an average of 38.22 per cent; while the range of mild interest was from 27.02 per cent to 56.86 per cent, with an average of 40.85 per cent. In the no-interest group, the range was from 9.14 per cent to 31.74 per cent, with an average of 20.83 per cent.

Comparison of the data given in Tables I and II show considerable differences in the interests in zoological and botanical divisions. The range of interest was greater in the zoological divisions (51.43 per cent) than in the botanical divisions (38.22 per cent). The division, inheritance and variation

ranked high in both groups. An analysis of the topics in this division shows that in botany students were interested in how plants were developed and improved, while in zoology interest ran high in topics related to human inheritance and variation. Other divisions of interest in zoology were in development and physiology, while in botany in interrelationships with other fields of learning and with uses of botanical knowledge.

The division test ratings in botany are given in Table II. The table shows that the two highest division interests, the interrelationships of botany to other fields of learning and inheritance and variation in plants, have the highest test ratings. In the remaining divisions there is a noticeable lack of coherency in test ratings. As in the zoological divisions (Table I), the botanical divisions have a low average test rating (18.33 per cent). This indicates, as was found for zoology, that knowledge plays only a minor role in determining divisional interest or lack of interest.

An analysis of botanical topic interests suggest the reasons for the division interests. The interests appear to fall into three general groups: (1) interest stimulated through striking topics which excite curiosity, (2) topics which suggest uses of botanical information and (3) desire to know more about certain aspects of botany. Samples of topics which excite curiosity are: relationship of botany to chemistry and physics, how new plants are developed, origin of plant life, structures present in leaves, hayfever producing plants, and how seeds are produced. Topics which suggest uses of botanical information are: techniques of plant breeding, means of eradication of undesirable plants, and plants which are suitable for landscaping purposes. In a number of cases a high correlation exists between high interest rates and high test ratings, indicating that in certain cases knowledge plays a rôle in determining interest.

In a comparison of botanical and zoological topic interests and topic test ratings, it is clearly evident that students in zoology not only have a higher interest rate and a wider range of interests but also have more information about zoology than botany. While curiosity and knowledge resulted in interest in both zoology and botany, immediate needs and vocational interests were more important in zoology than botany as a basis of selection. However, students were more interested in uses of botanical information than zoological information.

SUMMARY

Results from interest-information check lists given to students entering the beginning zoology and botany courses indicate that in zoology the students were interested in 51.43 per cent, mildly interested in 33.76 per cent, and not interested in 14.81 per cent of the topics; while in the botany the students were interested in 38.22 per cent, mildly interested in 40.85 per cent, and not interested in 20.83 per cent of the topics. In zoology, the chemistry majors had the highest interest rate, followed respectively by the pre-medical group, biology majors, no-major group, home economic majors, miscellaneous group, elementary education majors, and the pre-dental group. In botany, the elementary education majors had the highest interest rate, followed respectively by the miscellaneous group, biology majors, no-major group, chemistry majors, pre-medical group, and pre-dental group.

The zoological divisions which had high interests were inheritance and variation in animals, development in animals, physiology, organic evolution, economic aspects of zoology, and morophology; while the botanical divisions which had a high interest rate were uses of botanical information, inheritance and variation in plants, development in plants, morphology, organic evolution, and physiology.

Division test ratings indicate that knowledge, or the desire to know more about the subject, play only a partial rôle in determining interest in zoology and botany. Analysis of topic interests indicate that in zoology information that is applicable to immediate needs, curiosity excited through striking topics, and materials applicable to a particular vocation play important rôles in determining interests; while in botany the striking topics which excite curiosity and topics which suggest uses of botanical information play important rôles in determining interests.

EFFECT OF INFORMING PUPILS OF THE CORRECTNESS OF THEIR RESPONSES TO OBJECTIVE TEST QUESTIONS

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Editor's note: An important condition for effective learning and teaching is knowledge of the effects of various teacher-pupil activities and the instruments of measurement employed. The authors present data of the effect of informing pupils of test results.

INTRODUCTION

A CONDITION of good teaching and good educational research is a knowledge of the effects of the teaching instruments used. Tests are in use for one purpose or another in the great majority of classrooms in the country and easily stand as among the most effective instruments at the teacher's command. Good tests afford the pupil tangible evidence of success or failure together with such psychological value as accrues from knowledge thereof.[1] They may be used to motivate pupils and to apprise the teacher of the success of his efforts, and the like, as is well known. Moreover, the taking of tests is not a waste of the student's time; it is a valuable use of his time. There is good reason to believe that the pupil learns as much minute for minute in taking an objective test as he does in any other type of activity of the school day. Genuine learning results from the sheer taking of such a test, even when no special preparation is made before its taking.

Spitzer has shown that the taking of an unannounced multiple-choice test is a valuable aid to retention, the effects being quite noticeable 63 days afterward, the longest interval investigated by him. Incidentally, maximum results were obtained when the tests followed within two or three days the study exercise. The value decreased as the interval between learning and the giving of the test increased.[2]

Sones and Stroud found that the taking of a multiple-choice test one to three days after a study period produced a significantly greater yield than did

[1] Incidentally, there is reason to suspect that value does not automatically flow from knowledge of academic achievement. We may expect it to do so with any assurance of fulfillment only if the pupils are motivated, if such achievement matters to them. Success and failure with respect to a desired end inevitably brings pleasure or displeasure. With respect to indifferent ends, there is no reason to expect such a result.

[2] H. F. Spitzer, "Studies in Retention," *Journal of Educational Psychology*, XXX (1939), 641–656.

a rereading of the learning material after a like interval. Here also the value of the test decreased as the interval between learning and testing increased. Since the value of rereading was not affected by the time interval between learning and testing, rereading assumed a position of greater importance than the testing after about two weeks.[3]

It was suggested by Spitzer that additional learning value might accrue from the practice of allowing pupils to examine, even for a short while, their corrected papers. It is the object of this article to report the results of a minor investigation directed toward the testing of his suggestion. Curtis and Wood, comparing four different methods of correcting papers, concluded that all were valuable, but that those which provided for a systematic discussion of the test items were of greatest value.[4]

PROCEDURE

The learning material was connected text, embodied in a 1350 word pamphlet, on the history of books and book making, prepared in two comparable forms, herein referred to as *A* and *B*. Two 4-response, 30-item tests corresponding one each to the two forms of text material, were employed in the experiment. The pupils were allowed 15 minutes in which to read and study the material. A list of questions and directions for further study appeared at the end of the articles. Fifteen minutes were allowed for the objective tests which were taken at the close of the learning exercise.

The subjects were 125 tenth, and 125 eleventh, grade pupils. The conditions of the experiment were carried out in the regular English classes, with the regular teachers in charge. All subjects studied, on different occasions, both sets of material and took both tests. One set of material was used in the condition in which the corrected test papers were returned to the pupils (Condition I); the other, in the condition in which the papers were not returned (Condition II). The two sets of material and the temporal order of the two conditions were counterbalanced in order to control

[3] A. M. Sones and J. B. Stroud, "Review, with Special Reference to Temporal Position," *Journal of Educational Psychology*, XXXI (1940), 665–676.

[4] F. D. Curtis and G. G. Woods, "A Study of the Relative Teaching Value of Four Common Practices in Correcting Examination Papers," *The School Review*, XXXVII (1929), 615–623.

See also an article by F. D. Curtis and W. C. Darling, "Teaching Values of Common Practices in Correcting Examination Papers," *The School Review*, XL (1939), 515–525.

possible differences in difficulty of the text material (or tests) and practice effects, respectively.

For example, the students in Class 1 studied text material *A* for 15 minutes and subsequently took the appropriate examination. On the next day their corrected test papers were returned to them. These they were allowed to examine for a period of five minutes, after which time they were taken up. Six days afterward the test was repeated without warning. Two weeks later the pupils of this same class studied text material *B*, took the test, and, after a lapse of a week, took the test again. The two conditions were applied in the same order in Class 2, but with the provision that material *B* was used in Condition I and *A*, in Condition II. Material *A* was administered to Class 3 under Condition II, followed by material *B*, under Condition I. Material *B* was administered to Class 4 under Condition II, followed by material *A*, under Condition I. The materials and temporal order of Conditions I and II were similarly crosschecked with the other classes.

The teachers scored the test papers by placing a cross with a colored pencil to the left of the number of the correct response. This procedure not only enabled the pupil to know whether or not his answer was right, but also, if wrong, which one of the remaining responses was correct. The papers were returned to the pupils on the day following their taking the test.

Inasmuch as both conditions were administered to all of the 250 subjects, the problem of equating groups does not arise. Although the two sets of material were not equated prior to the beginning of the experiment, any possibility of the results' being influenced by inequalities in material was eliminated by the use of a counterbalanced order. Practice effect was likewise controlled by a counterbalancing of temporal order of the two conditions. It is assumed, therefore, that any differences greater than chance may be attributed to the difference between the two conditions: I, returning the corrected papers to the pupils for inspection, and II, not returning them. In no case were the pupils informed that the test would be repeated at a subsequent date.

RESULTS

The following circumstances of the experiment were common to all subjects: reading and studying the text material, taking a 30-item, 4-response test immediately after the study period, and a retaking of the test one week later. We know that between two equated groups of pupils, one of which

takes a suitable test of this kind subsequent to a reading of text material and one of which does not take a test, considerable difference will be found in their scores on the test, or a comparable test, administered a week afterwards. The group having the benefit of the test will show a small average decrement; the group not having the benefit of the initial test will show a larger decrement, perhaps twice that of the former group. Hence it follows, since all of our subjects under both conditions took such a test immediately after the learning exercise, they would not show a large decrement in test performance when the test was repeated a week later. Therefore, if inspection of the corrected papers has any appreciable advantage, the pupils must show a gain, when working under this condition, over their initial scores. Examination of the results in Table I shows this to have been the case.

TABLE I

THE EFFECT OF ALLOWING PUPILS TO INSPECT THEIR CORRECTED TEST PAPERS

Material	Condition	N	Mean first testing	Mean second testing	Dif.	S. E. dif.
A	I. Papers inspected.....	125	21.46	25.16		
A	II. Papers not inspected....	125	21.50	20.01	5.15	.211
B	I. Papers inspected.....	125	21.27	25.01		
B	II. Papers not inspected....	125	21.83	20.39	4.62	.176

Legend 1. Total n = 250. Each subject participated in both conditions.
Legend 2. S.D. (second testing) AI = 1.86, AII = 1.46, BI = 1.37, BII = 1.41; S.E.f = .166, .131, .123, and .126, respectively.

Substantial differences are found in favor of Condition I, that of allowing pupils to inspect their corrected papers. The ratio of the difference between the means and the standard error of the difference is 24.4, material *A*, and 26.2, material *B*.

A question which will naturally arise as the reader examines the results of this investigation is whether or not any genuine learning took place as a result of the experimental method introduced. Did the pupils merely remember the correct responses, *qua* responses, or their corresponding numbers, without there having been any important additions to their fund of knowledge? In one sense, learning is learning to make a response. If, however, such learning consists in remembering that item number 1 is the cor-

rect response to the statement "Vellum is made from," or if he remembers "the skin of a calf," as a sheer rote process, without meaning to him, we should all agree that such a learned response has little or no educational value.

Concerning the foregoing it may be said that the correct responses have meaningful relationships to the test statements. If one learns that vellum is made from the skin of a calf, it should not make much difference where he learned it. It is a self-contained statement. In the second place, it is doubtful if the pupils could have remembered, as a rote process, by position or otherwise, a significant number of correct responses in a thirty-item test, for a period of a week. Moreover, the pupils were given no indication that the test would be repeated. In making their examinations of the corrected test papers, their most natural incentive would have been to gain additional information about the subject plus some natural curiosity to see how well they did. It should be said that one-half of the subjects were allowed to inspect their corrected papers in the first experimental situation and the other half in the second. Since the latter half had, in the first situation, previously taken the test and retaken it a week later, they may have had some reason to suspect that, in the second experimental situation, the test would be given again. However, separate analysis of the results with respect to the temporal order of the two conditions gives no indication that this was a factor in the general results. That is, Condition I was as effective when it appeared in the first temporal position as when it appeared in the second.

ACCURACY OF TEACHER QUESTIONNAIRE DATA

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Editor's note: The questionnaire is an instrument frequently used in the collection of data. The author presents data on the unreliability of many teacher responses.

THE questionnaire is used rather extensively as an instrument for the gathering of data. This wide use of the question blank emphasizes the importance of investigating the accuracy of the data so gathered. If a large percentage of the returns are inaccurate, then educational literature contains many assertions of doubtful value. The present study* has as its purpose reported by teachers about themselves.

An entire city school system of a city of 14,000 people was recently surveyed by a corps of college professors. Part of the survey involved a study of personal data concerning the 86 teachers in the city system, and data were gathered by means of a questionnaire submitted to each teacher. In filling in the survey blanks the teachers reported that some of the questions were not clear. This statement led the writer to believe that the teacher, with the best of intentions, might make incorrect responses on questionnaire forms.

There were not enough city teachers to make a very conclusive investigation, so the county teachers were brought into the study when it was found that they had filled in blanks for the county superintendent which were similar to the survey blanks. There were, then, two sets of teacher data already in existence—the questionnaires of the survey (for the city teachers), and the blanks of the county superintendent (for the county teachers).

To check the accuracy of data obtained by the survey questionnaire, and by the county superintendent on his blanks, the writer prepared a questionnaire that would be clearer and more specific than either of the earlier blanks. The writer's questionnaire attempted to avoid some of the sources of ambiguity and uncertainty which had been present in the other blanks. However, it also included (duplicated) a number of items which the investigation of the accuracy of questionnaire data of one sort—those

* The full report of the study is available in the following: "Accuracy of Teacher Questionnaire Data." Master's thesis. Duke University, Durham, N. C. 1939. 124 p.

were in satisfactory form on the earlier blanks, just to check on the consistency of report to the very same question.

The author's questionnaires were distributed so that each white and Negro teacher in the county school system and in the city school system would receive one. Approximately 240 out of 275 questionnaires distributed were returned filled in. Inasmuch as this study was made on a comparative basis, however, only pairs of questionnaires were used. That is, the author's questionnaire was usable only if there was a survey blank, or a county blank, already on file for the same teacher, to match with it. On this basis, 216 pairs of questionnaires were available for this study, which represents returns from about 75% of the teachers in both the city and county groups. Usable pairs of questionnaires were as follows:

White city teachers	31
White county teachers	45
Negro city teachers	24
Negro county teachers	116
Total	216

The author's questionnaire was filled in by the city teachers within two weeks after they had filled in the survey questionnaire. There was little time for the facts underlying the responses on these blanks to change materially. Approximately half of the county superintendent's blanks were filled in by the county teachers within a thirty-day period prior to the filling in of the author's blanks. The other half were filled in at varying times during the 1938–39 school year. On the reports made earlier in the year there may be some legitimate reason for variations from the facts reported on the author's questionnaires. On the other hand, anyone using these county superintendent's reports would use them as representing this school year, and the variations would be in the data even though not suspected.

The problem was attacked by comparing the response to an item on the author's blank with the response given to the same item by the same teacher on the survey or county blank. Response errors (variations) included: omission of an essential part of the response on either of a pair of questionnaires; omission of all data to a question on one questionnaire; partially wrong responses; and responses which were entirely in error.

This study is probably concerned more with the reliability of reported data than with their validity, because it cannot be assumed that answers

even to the author's questionnaire were entirely correct, so that it could serve as an infallible criterion. In some cases, however, where questions on the county and survey blanks appear to be ambiguous, and the author's questions appear to be clear and simple, there are definite implications as to validity. To the extent that one cares to assume that the responses to the writer's questions were sufficiently correct to serve as a useful criterion, the study is directly concerned with validity.

In making the analysis of the responses on the pairs of questionnaires, it was found that there were 17 items that could be compared on the county reports, and 22 items that could be compared on the city reports. The number of variations (errors) on individual reports ranged from two to thirteen on the county teachers' blanks, and from two to fourteen on the city teachers' blanks. One blank contained as many as fourteen variations, and not a single blank in the entire group showed less than two variations. Three-fourths of the county teachers and nearly three-fourths of the city teachers made from six to ten variations on their reports.

Averages were computed in the 216 reports in regard to the total response errors that were made on the individual blanks. It was found that the county teacher made an average of 7.5 response errors on his blank, which is 44% of the 17 response items which could be compared. The average city teacher made 8.2 response errors on his report, which is 37% of the 22 items which could be compared on the city reports. The average report, then, was about two-fifths in error.

Three types of analyses were used in the study of these data: each item was studied to ascertain the per cent of the group who showed variations in their responses to it; the responses of the entire group to certain items were averaged and averages on the two sets of reports compared; the magnitude of the response errors for several items were correlated with the reported values.

In regard to the per cent of the group who showed variations in their responses to a particular item, it was found that response errors ranged from 16% on the least troublesome item to 96% on the most troublesome item. Over half of the items showed fifty per cent of the group, or more, responding differently on the two blanks. The per cent of the teachers whose pairs of blanks showed variations on single items is listed below, by items:

Professional training	96%
Name (without instructions)	78
Extra school duties	78
Licenses with dates of issue	76
Dependents	75
Class preparations per week	73
Experience (present position)	68
College, summer school, correspondence work done	67
Professional books read	67
Number pupils taught per week	67
Grades, classes, or sections taught per week	65
Hours in civic activity per week	64
Professional Magazines read	63
Experience (outside present position)	56
Attendance at professional meetings	56
Absences	55
Licenses without dates of issue	48
Room and board costs	48
Membership in professional organizations	47
Age	41
Experience (present address)	41
Permanent home address	37
Name (with instructions)	34
Teaching assignment	29
Class periods taught per week	27
Salary	26
Length of class periods	20
Marital status	16

The average values for the group, computed on the two sets of reports, did not show great variation. In most of the items on which averages were obtained there was almost exact correspondence. In several instances, however, the differences appeared to be serious. A summary of the group averages for certain items is given below:

Item	Writer's Questionnaire	County and/or Survey Questionnaire
Number of Dependents	2. 2	2. 5
Salary	$509. 73	$528. 07
Cost of room and board (Negro)	$9. 94	$10. 03
Hours in extra school duties	7. 9	6. 4
No. of pupils taught per week	512.	617.
Classes with similar preparation	11. 2	16. 0
Grades, classes, or sections per week	5. 3	16. 8

It is interesting to note that an item might be averaged for the group and only a slight variation obtained, whereas an analysis of each pair of reports may show a large per cent of the group with variations. For example, on one set of blanks the teachers reported an average of 4.5 hours per week on civic activities, while on the other set he reported 4.4 hours. The variation is only one-tenth of an hour. Yet 64% of the teachers reported differently on their pair of reports.

In the third form of analysis the response errors for several items were correlated with the reported values on the author's questionnaire, to see if errors were related to magnitude. This was done for several items which appeared to be measurable. The tables show that there is some tendency for the teachers to report themselves in a more favorable position in the eyes of officials. The coefficient of correlation between the error and the response on teachers' ages was —.31. One teacher gave her age as 64 years on the writer's blank; she gave her age 20 years less on the county superintendent's blank. Another teacher was 19 years of age on the writer's blank and 26 years on the county superintendent's blank. With these two cases thrown out (because of their extreme variation) the correlation coefficient was reduced to —.18.

The coefficient of correlation on teachers' salaries was —.32; years of teaching experience —.21; number of magazines read —.74; number of books read —.43. Negative correlation coefficients between the errors and the values reported were found in each instance. The coefficients ranged from —.74 to —.21. These coefficients add to the evidence that the teachers tend to report themselves in a more favorable light on the official blanks. The younger, inexperienced ones tend to add on to their records, and the older ones subtract, where this makes a more favorable report.

From the data that have been presented in this study it is evident that many responses on questionnaires calling for personal-professional data are likely to be unreliable. Here, at least, is specific evidence of the uncertainty of reported values on one form of questionnaire report.

ADMINISTRATIVE PROVISIONS FOR GUIDANCE IN NEGRO COLLEGES AND UNIVERSITIES

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Editor's note: Many institutions of higher learning have instituted programs of educational, vocational, and social guidance for students. The author reports the practices of Negro colleges and universities in this respect.

THE primary aim of this study is to ascertain the guidance machinery and guidance personnel provided in Negro colleges and universities, and to make an evaluation of the same in the light of current practices and standards. A questionnaire was forwarded to one hundred and twenty Negro institutions of college rank. Fifty four institutions located in 18 states and the District of Columbia made usable replies.

The returns from the questionnaire have been checked against catalogues and other supplementary information forwarded from the schools. From these sources we have endeavored to obtain specific and somewhat detailed information pertaining to the place of orientation, program of testing and relative emphases given counseling, records, and problems of a vocational nature in the colleges' programs.

INTRODUCTION

The part to be played by guidance in the Negro student's life is infinitely important. If, as pointed out by authorities, the influence of the home as an educational agency has been increasingly impaired in modern times, such would imply an even more acute problem for the Negro child. Due to the economic insecurity of his home and the meager educational background of his parents, the Negro child receives a minimum of cultural inspiration from his family. This condition is being reflected in the decreasing Negro school population in proportion to the whole population of the race, at the lower school levels. At the college level the present tendency for male students to withdraw leaving female students to pursue higher training presents another challenging question from the guidance standpoint.

ORIENTATION

Naturally the first phase of the guidance program is that of orientation, and expressive of its purposes here is induction into college.

Few of the colleges studied indicated any systematic approach to the problem of recruiting students. Only 24 of the 54 institutions answered in the affirmative the question inquiring whether they had personal contact with their students prior to their appearance at the college. In nearly every instance, those answering in the affirmative gave qualifying statements, such as "a few students are contacted personally prior to their entrance, but we have no organized program." Significant departures worthy of mention are the municipal teachers colleges (Coppin Teachers of Baltimore, Miner Teachers of Washington, Stowe Teachers of St. Louis) and Junior Colleges (Dunbar of Little Rock, and Houston of Houston, Texas), whose student bodies in the main come from the local high schools. Three other schools, Clinton Normal and Industrial College, Rock Hill, South Carolina; Dillard University, New Orleans, Louisiana; and St. Phillip's College, San Antonio, Texas, reported the services of a field representative who visited all prospective students. However, it may be fairly assumed that their contributions to the school's program are primarily concerned with soliciting students, although they undoubtedly render services of a guidance nature.

Few Negro institutions maintain a high degree of selectivity with regard to admission of new students. There is an apparent economic reason for this policy. According to catalogue information, a few institutions rigidly require the new student to be a graduate of a Class "A" high school; but the vast majority accept any student applying who has graduated from a "state-approved high school" with the minimum number of units necessary for admission.

McCracken[1] and others indicate that the question of selection and admission should be studied under three headings: "Cooperation of the college with secondary schools and other colleges; recruiting and advising prospective students; and admission requirements." The limitations of our sources have obviously confined us here to a consideration of the latter two. It should be noted, though, that in general practice the Negro colleges have recently taken interest in rallies, and literary and musical festivals as means of attracting high school students to their campuses during the session. No colleges systematically cooperate with local secondary schools in "Go to

[1] C. C. McCracken, K. A. Browne, and William C. McCracken. *A Survey of Student Personnel Services in Fifty Colleges Affiliated with the Board of Christian Education of the Presbyterian Church in the United States of America,* Part I, p. 9.

College Programs" or "guidance clinics" conducted by high schools themselves.

Forty-eight, or ninety per cent of the schools reporting sponsor formal orientation programs which include registration, classification and testing. Six institutions do not hold orientation programs. The formal orientation programs extend from one day in a few colleges to a week in the majority. A three day orientation period is frequently recorded. Freshman Week has become a rather popular period in Negro colleges, and supplementary materials submitted from the various schools indicate that it is receiving concentrated attention in many quarters. Forty-eight institutions reported that they gave tests to new students. Table I lists the tests according to their usage in battery combinations of two, three, four or five tests. Twenty four institutions give a battery comprised of two or more tests. Nine colleges, Alcorn, Arkansas State, Bluefield, Bowie, LeMoyne, Morris Brown, Southern, Stowe, and Virginia State employ two tests in their orientation programs. Usually a general intelligence test is supplemented by an English or reading test in these schools. It has been pointed out by Doermann that an ideal testing program for orientation purposes should include at least three tests, a reading test, a psychological test, and an achievement test, aside from physical examinations.[2] In accord with this thought it is gratifying to observe that at least fifteen colleges, Allen, Barber–Scotia, Bethune–Cookman, Bennett, Clark, Howard, Kentucky State, Lincoln (Pa.), Morgan, Paine, Tuskegee, Tennessee State, West Virginia State, Wiley, and Winston Salem Teachers, give a battery of tests sufficiently comprehensive to really furnish a basis for guidance. Howard University, one of the outstanding schools in this group, gives a battery composed of Thurstone's Psychological, Minnesota Reading, Negro Affairs, and American Council Cooperative tests in English. Bennett College administers a battery of tests to freshmen made up of the American Council on Education Psychological, Chicago non-verbal, Columbia Research French (for language majors), Purdue English Placement and the Iowa Achievement. On the other hand twenty-four colleges rely solely on the findings of one test, according to questionnaire returns, while eight failed to indicate specifically the names of tests administered to new students. Two colleges in this group also failed to state whether they used more than one

[2] Donfred H. Gardner. *Student Personnel Service,* The Evaluation of Higher Institutions, N. C. A. Monograph., Vol. 5, p. 42.

TABLE I

TESTS EMPLOYED IN ORIENTATION PROGRAMS

Name of Tests Used	Battery Combinations in Which Tests Were Employed					
	Singularly	Battery of Two	Battery of Three	Battery of Four	Battery of Five	Total usage reported
American Council Psychological	3	4	2	2	1	12
Army Alpha (Shrammel-Brannon Rev.)	2	1				3
Chicago Non-Verbal					1	1
Detroit Adv. Intelligence			1			1
Hanmon-Nelson Mental Ability					1	1
Otis Mental Ability		1	1			2
Otis Self-Administering	2		2	1		5
Terman Group			1			1
Thurstone Psych.	2	2	2		1	7
Achievement (tests not specified)	5		2			7
American Council Cooperative	2	1	1	1	1	6
Barret-Ryan English		3	4			7
Clapp-Young English					1	1
Clapp-Young Mathematics				1	1	2
Cross English		1	2			3
English (tests not specified)	3	1	1	1		6
Iowa Silent Reading		1	1	2	2	6
Iowa Achievement		2		2	1	5
Jones Mathematics			1			1
Kansas State Teachers' College Achiev.	2					2
Minnesota Silent Reading					1	1
Negro Affairs					1	1
Pressley's English	1					1
Public School Achievement			1			1
Schrammel and Gray Reading		1				1
Shephard English				1		1
Sones-Harry Achievement	1		1			2
Wiley College English			1			1
Wiley College Mathematics			1			1
Whipple Reading			1			1
Columbia Research French					1	1
Inglis Vocabulary					1	1
Iowa English Placement	1		1			2
Purdue Placement in English				1	1	2
Institutions Employing Tests	24	9	9	3	3	48

form of the Cooperative tests; consequently it may be that these colleges credited in the table with using only one test, actually used a battery of Cooperative subject matter tests in their orientation programs. As revealed in Table I, a surprisingly large number of schools showed preference for reading and English achievement tests over the intelligence or psychological examinations. It is not within the province of this paper to discuss the relative merits and utility of the tests employed. The fact that they are so widely used might be indicative of their worth.

It is accepted that tests do indicate differences existing among students, even though the causes for these differences may be a disputed question. The question for guidance is, what is to be done about it? How will the information be used to the advantage of the students? In attempting an answer we observe questionable practices where a number of these colleges are concerned. Only 19 colleges give the tests before registration. Thus the majority did not give the tests until after registration. In two instances schools give tests before and after the registration period. The English placement tests find wide use in these schools and justly so, because of secondary school deficiencies in this basic subject generally present in students from southern Negro high schools. Few colleges reporting indicated any direct use of test scores. One college stated that the scores were filed in the dean's office for reference purposes. Other schools mention that the intelligence test scores are used for classification into particular groups, but a careful investigation of their instructional programs as outlined in the catalogues does not attest to such a procedure.

Two questions pertained directly to remedial measures, in short, to how the information and facts concerning the individual students are used. Analytical techniques are useless when they are not followed by adjustment measures. It has been pointed out that the majority of the institutions did not even give tests until after registration. This suggests the need for a more systematic organization of the testing program. Remedial work must hinge primarily upon facts about the individual student and his background. The remedial program inevitably falls down, then, when test results are not available to the educational counselor prior to registration.

It is lamentable that 18 colleges or 33⅓% of the schools reporting make no provisions for remedial courses. Thirty-six institutions reported definite and organized remedial work. The inadequacy of the remedial programs in many of the Negro colleges presents an acute problem when we consider the heterogeneity of the Negro college student group from the standpoint of cultural background and previous preparation.

Remedial English is the most frequently reported measure currently in use. Thirty-three colleges indicated foundation courses in this subject. Nine institutions, usually technical or trades schools, reported remedial mathematics. Three offered remedial French; three, remedial reading; and one, chemical arithmetic. In most of the schools studied, remedial work is taken

on a non-credit basis. Whether this policy is justifiable, and whether it insures the maximum recognition by students and teachers to remedial study are pertinent questions to be considered.

COUNSELING PROCEDURES

The next question of general concern is, what are the counseling procedures in these institutions? Many inconsistencies were revealed in the answers to the questions touching this point. These inconsistencies may have been due in part to the misleading nature of the questions themselves, while on the other hand they may reflect confusion existing in actual practice.

The Negro college, being small, has an advantage not enjoyed by many groups, in that its size makes intimate contact between teacher and student practically unavoidable.

Twenty-five reports stated that some one member of the faculty is appointed to have personal interviews with all freshmen in regard to their choice of studies; while 37 stated that special faculty advisers are appointed for this purpose. The fact that 32 colleges indicated that all members of the faculty did not serve as counselors is worthy of note and suggests that counselors are being selected with some care. The nature of this counseling service, regardless of who renders it, is of course, the question of educational import. It is surprising to note how infrequently deans serve as counselors to freshmen. In 28 schools they do not perform such functions; while in the 26 replying in the affirmative, it was explained that they served to a "limited extent." The shifting of this function from its traditional place in the dean's office might well be interpreted as indicating a new awakening and the attaching of added importance to this question in Negro colleges. Nine or 16% of the colleges reported a vocational counselor; however, a perusal of the catalogues of five of these schools did not reveal such an officer, while one school reporting indicated that the dean served in this capacity. Tuskegee and Hampton Institute undoubtedly provide the greatest opportunities to students where vocational counseling is concerned. A tabulation of the answers to inquiries concerning counseling procedures shows that faculty committees working as a guidance council or individually are used in 22 colleges; the dean is primarily responsible for guidance in 11 colleges; the dean as head of an appointed faculty committee in 6 colleges; educational and vocational counselors are employed by 4 colleges; the registrar in 4; faculty advisors for each class in 3; dean and registrar are mutually

responsible as directors of the counseling programs in 2 schools; while 2 colleges employ personnel directors.

The practice of selecting special faculty advisers who are interested in the problems of students is seemingly the dominating tendency. This procedure is apparently the one widely accepted today by authorities on the question. Students in this situation, it is pointed out, "have frequent natural contacts with the counselors." There is no tenseness about going to talk to a counselor; he is merely a personalized teacher.[3]

VOCATIONAL GUIDANCE

Vocational guidance has been the one phase of guidance commanding the attention of those interested in the educational needs of Negro youths. This situation is justifiable because it is a concomitant part of a most vital question facing the race. It is almost an inevitable development, then, that writers on guidance should focus their efforts rather narrowly to this particular phase of the field. Many contemporary authorities have attempted to indicate a broader interpretation of guidance than merely job-seeking and job-finding. Jones and Hand,[4] discussing this point, state: "In considering the usefulness, effectiveness, or desirability of any position or aspect of life, or of any job, the entire pattern of life should be considered, not merely one segment of it.

"For many persons their vocational activities occupy a large part of life in time, energy, and, it may be, in interest. But they are not the whole of life, though they may furnish the chief avenue through which the central goal is realized."

It is obvious that these writers are opposed to over-emphasizing the vocational side of guidance per se, although they do recognize it as a directive element in any guidance program.

The National Survey of Vocational Education and Guidance[5] reported that 21 colleges conducted conferences and discussions as a means of making facts available to their student bodies about occupations. Thirty-nine col-

[3] Esther Lloyd-Jones and M. R. Smith. *A Student Personnel Program for Higher Education*. p. 106.

[4] A. J. Jones and H. C. Hand. *Guidance and Purposive Living*. Offprint from *1927 Yearbook of the National Society for the Study of Education*, Part I, Chapter I, p. 12.

[5] Ambrose Caliver. *Vocational Education and Guidance of Negroes*. Bulletin, No. 38, Washington, D. C.; Department of the Interior, Office of Education, 1937.

leges reporting in the present survey used this procedure. The National Survey indicated further that 29 colleges employed lectures and assembly programs, and 21 employed library assignments and general and vocational literature. Such procedures, while worthwhile and beneficial, certainly cannot be interpreted, even in the broadest sense, as a presentation of definite facts about occupations. At the best, these presentations, in most cases, represent only incidental information acquired by the student. The method of presenting these facts and the nature of the assembly programs, would of course be determining factors as to their suitability for being classed as sources of definite facts. This is a problem that warrants more detailed study.

Thirty-eight institutions reported placement services for undergraduate students. This has been one of the traditional services rendered local communities by Negro colleges throughout the South. Efforts of this sort have proved beneficial to both college and student. Thirty-one institutions, however, reported that they have placement bureaus for graduates. The accuracy of this report is doubted. Another possible source for error in reporting is found in the small number (31) of colleges reporting tryout courses. This is perhaps due to the different concepts held as to the meaning of "tryout" courses by those answering. A broad view of tryout courses would include practice teaching and farm training in agriculture. Many college catalogues revealed try-out programs which local authorities failed to report. Fourteen colleges listed tryout courses in teaching (practice teaching); 5 in agriculture; 4 in mechanic arts; 4 in home economics; 3 in office practice (business); and 1 tryout course in ministerial and social service training.

STUDENT RECORDS AND FOLLOW-UP

When we turn to the question of student records, we encounter another intangible from the standpoint of our study. Forty colleges state that records aside from marks in studies are kept. An important question of educational significance here is, what kind of records? And for guidance purposes—how are these records used? It is possible that institutions have reported ideals and hopes rather than attainments and actual practices in this connection. This question is given increased weight from an analysis of the fourteen institutions reporting in the negative, because five of this number represented the largest of the colleges reporting. They are Virginia State, West Virginia State, Southern University of Louisiana, Bluefield State Teachers,

and Stowe Teachers College, representing an aggregate enrollment of over 4,000 students.

Another report which seems in error is that pertaining to follow-up procedure. Thirty-nine schools answered that they did follow-up alumni. The question here is whether this follow-up is systematized or whether it is haphazard in nature.

CONCLUSIONS

Tentative conclusions from the facts evaluated here indicate the extent and nature of present provisions for the administration of guidance in Negro colleges and universities. (1) Orientation activities have been given a prominent place in most Negro colleges. The exact practices in this regard vary from school to school; however, "Freshman Week" has become a well established program. The failure of many colleges to use test results in the initial efforts at educational guidance is a glaring weakness in this phase of the general guidance program. Little direction is supplied the remedial teaching program without test scores or some other fact revealing substitute such as cumulative records which are generally unavailable in most Negro secondary schools. (2) An interesting trend in counseling procedures is indicated by the fact that 28 colleges have appointed special faculty committees to do this work. Formerly, deans served as counselors and often neglected this important phase of their work for the "more pressing" routine matters. In spite of these favorable trends Negro colleges should consider the advisability of employing the services of guidance counselors or personnel directors to correlate and coordinate guidance activities. (3) There seems to be little uniformity with regard to practices in vocational guidance. This phase of guidance offers a definite challenge to Negro education. (4) There is reason to believe that the returns concerning records and follow-up indicate what is contemplated, rather than what is. Findings in this study suggest that Negro colleges should strengthen their follow-up programs. Likewise there is a fertile field for correlating educational theory and social practice by using tryout courses in social work, teaching, agriculture and business, more extensively. Such activities should provide the twofold advantage of offering unlimited experiences for self-guidance, and at the same time contribute to the cultural and economic progress of the race.

DO OUR READING TESTS TEST THE RIGHT WORDS?

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Editor's note: The developments in evaluation techniques have been many within the quarter of a century just past. The author makes a suggestion for test construction in the field of reading.

THE present reading test measures vocabulary by testing words picked at random which purports to predict the total vocabulary of the person being tested, either explicitly as the old Stanford–Binet did by multiplying the vocabulary score by a constant figure to obtain total vocabulary, or by inference as in our present reading tests. It would seem, from the writer's experience, that another variable must be controlled in obtaining an adequate sample of the subject's reading vocabulary.

In attempting to build a reading vocabulary test by means of a new method, the writer became aware of the fact that one aspect of reading vocabulary testing which had been neglected was the frequency of usage of certain types of words. Thorndike (1) in his *Word Book* has shown frequency of usage of words generally. This has assisted in a measure in the grade placement of vocabulary. No study, however, has been made of the frequency of usage of certain types of words or word categories. Vocabulary tests, as they exist today, are constructed by taking a random sampling of words from a dictionary list. Valuable as this is these words may or may not be those most frequently used. The rank order of these used categories has been ascertained by the writer in a previous study and will be summarized below.

In order to measure the frequency of usage of certain types of categories it was found that Roget's *Thesaurus* (2) would be an invaluable aid, for it is the most useful category tabulation of the majority, at least, of the words in the English language. Roget has divided the words of the language into six major categories, viz., 1. Abstract Relations, 2. Space, 3. Matter, 4. Intellect, 5. Volition, 6. Affections. These six major categories are in turn broken down into twenty-four minor categories. From the six major categories presented above it is obvious that the classification of words has been, in the main, philosophical in nature. The fact that this is so did not invalidate them for the purpose of the study, for the consistency of use of an orderly and organized plan was of much more importance for

the purpose of the study than any basic assumptions inherent in the choice of categories. The problem, then, resolved itself into the following question: What categories are the most frequent in the child's reading, and how does the frequency of usage of categories by the child compare with the frequency of usage of categories by adults? For a typical list of a child's reading words the Durrell–Sullivan Minimum Essentials Word List (3) for the fourth grade was used. This list was derived from a careful study of the vocabulary used in reading books designed for the fourth-grade child. The words which were finally included in the list were words which appeared in seven or more books on this level. Words which appeared on lower grade lists were not repeated in this list. The validity or adequacy of the list depends, of course, upon the adequacy of a group of some fifteen texts usually expected to be read by fourth-grade children. This list, then, was taken and every word placed into the proper category or categories (as many words, having more than one meaning, fell into more than one category) according to the Roget classification.

As a result of the above outlined technique the rank order of frequency of usage of twenty-four categories, derived from a list of six hundred fourth-grade words, was found. Table I presents the twenty-four categories in order from the most to the least frequently used in a fourth-grade reading vocabulary as put forth by the Durrell–Sullivan list.

TABLE I

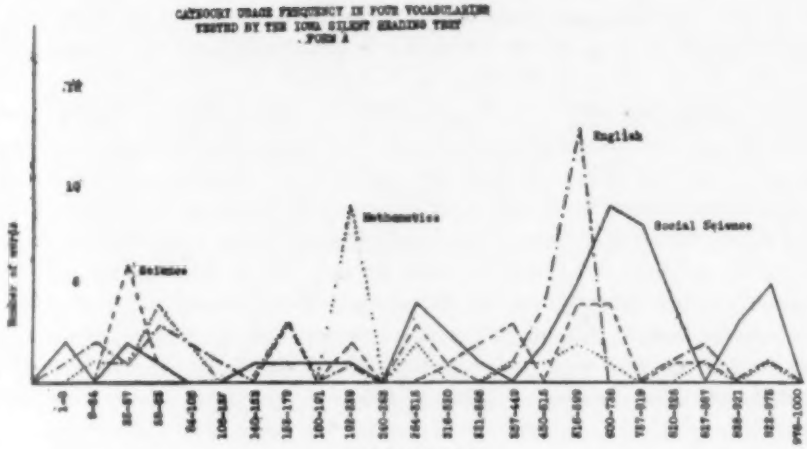
TWENTY-FOUR CATEGORIES RANKED ACCORDING TO FREQUENCY OF USAGE DERIVED FROM 600 FOURTH GRADE READING WORDS

1. Individual Volition	9. Moral Affections	17. Affections Generally
2. Organic Matter	10. Quantity	18. Time
3. Personal Affections	11. Causation	19. Religious Affections
4. Motion	12. Sympathetic Affections	20. Relation
5. Intersocial Volition	13. Form	21. Number
6. Communication of Ideas	14. Inorganic Matter	22. Existence
7. Dimensions	15. Space Generally	23. Change
8. Formation of Ideas	16. Order	24. Matter Generally

It was considered desirable to ascertain the stability of this rank order within the fourth grade vocabulary itself and in relation to an external criterion. To find this stability within the fourth grade list the first half of the list was correlated with the second half by the rank-difference method. This correlation was .98 $\pm$ PE.02. The first half correlated with the whole list was .98 $\pm$ PE.006 and the second half correlated with the whole list was

TABLE II

CATEGORY USAGE FREQUENCY IN FOUR VOCABULARIES TESTED BY THE IOWA SILENT READING TEST, FORM A



ROGET'S CLASSIFICATION OF LANGUAGE

1–8 Existence	192–239 Dimensions	600–736 Individual Volition
9–24 Relation	240–263 Form	737–819 Intersocial Volition
25–57 Quantity	264–315 Motion	820–826 Affections Generally
58–83 Order	316–320 Matter Generally	827–887 Personal Affections
84–106 Number	321–356 Inorganic Matter	888–921 Sympathetic Affections
107–139 Time	357–449 Organic Matter	922–975 Moral Affections
140–152 Change	450–515 Formation of Ideas	976–1000 Religious Affections
153–179 Causation	516–599 Communication of Ideas	
180–191 Space Generally		

.97 ± PE.01. In correlating the rank order of the fourth grade list with an external criterion it was thought desirable to find the rank order of frequency of the categories for the language as a whole as represented by Roget's work. The resulting rank-difference correlation was .88 ± PE.03.

From the above correlations it is clear that the rank order of frequency of usage of categories is a rather stable entity and may be accepted for the language as a whole. If we can accept this rank order, and it would seem that the evidence is strong enough for at least conditional acceptance, it should be taken into account when reading vocabulary is being tested. When a sample of words is taken for inclusion in a vocabulary test it should be taken with due regard for the frequency of usage of each category with due weight being given for the types of words most frequently encountered in reading material.

The main purpose of this paper is to present a preliminary investigation into a reading vocabulary test in order to ascertain if it has been constructed with due regard for the principle enunciated here. The vocabulary section of the Iowa Silent Reading Test, Form A, was chosen for this investigation. The choice of the Iowa test has been purely for purposes of illustration, and the application of the following technique to other vocabulary sections of reading tests will be undertaken in the near future. The Iowa test is rather unusual among reading tests in that it attempts to measure, in reality, four vocabularies, viz., Social Science, Science, Mathematics, and English. In short, it has already made the first step in the direction of categorization and gives greater weight to the Social Science and English vocabularies than it does to the other two vocabularies presenting twenty items for the first two as opposed to fifteen items for the last two vocabularies. The heavier weighting given to the two more socialized vocabularies is in line with the frequency of usage rank order found by the writer.

The words which constituted these four vocabularies were tabulated and analyzed in a similar manner to the analysis of words on the Durrell–Sullivan list. The results of this tabulation for each vocabulary are shown graphically in Table II. The categories represented by the numbers on the abscissa of the graph can be found on the reverse side of the graph sheet. It is interesting to note that Social Science words preponderate in the categories of Individual and Intersocial Volition; English words concentrate in the category of Communication of Ideas; Mathematic words cluster about the category of Dimensions; and Science words are found mainly in the category of Quantity.

Let us consider these four concentrations in light of the rank order of frequency of usage found above. The categories emphasized by Social Science vocabulary are placed first and fifth in the rank order; categories emphasized by Science are placed tenth in the list; and the categories emphasized by Mathematics are placed seventh in the list with English vocabulary emphasis placed sixth in the list. It would seem, then, that the more social the nature of the vocabulary the higher it places on the category frequency list.

Finally, all the words tested in these four vocabularies were pooled and the rank order of usage of the categories involved were found. The following rank order shown in Table III resulted.

TABLE III

TWENTY-FOUR CATEGORIES RANKED ACCORDING TO FREQUENCY OF USAGE DERIVED FROM THE FOUR VOCABULARIES TESTED IN THE IOWA SILENT READING TEST, FORM A

1. Communication of Ideas	9. Causation	17. Inorganic Matter
2. Individual Volition	10. Organic Matter	18. Affections Generally
3. Dimensions	11. Formation of Ideas	19. Time
4. Quantity	12. Number	20. Change
5. Order	13. Personal Affections	21. Space Generally
6. Motion	14. Existence	22. Matter Generally
7. Intersocial Volition	15. Relation	23. Religious Affections
8. Moral Affections	16. Sympathetic Affections	24. Form

A comparison of the rank order found in Table III and the rank order found in Table I will show the discrepancies which exist in the testing of the types of words most frequently used. The frequency of types tested by the Iowa deviate appreciably from the empirical results of the study on the fourth grade reading vocabulary and on the language as a whole, as evidenced by a study of Roget. The difference between the desired and the tested in this instance may be expected statistically by a rank-difference correlation between the two rank orders. This correlation is $.74 \pm$ PE.05 which is none too high. In conclusion, then, it might be stated that reading vocabulary testing, as evidenced by the Iowa test, does not fulfill the requirements of testing words in relation to their type or category frequency of usage. Further investigation is, of course, suggested in that other tests of reading vocabulary be analyzed. It is also desirable that there be more comprehensive studies made to ascertain the stability of the rank order presented in Table I. If it is found that this rank order is stable it is obvious that the types or categories of words should be taken into account when constructing tests of reading vocabulary.

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ATTITUDE TOWARD THE PUBLIC SCHOOL

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Editor's note: It would be difficult to overestimate the importance of the public relations of the school and its personnel. The author presents a scale to assist in the study of the public's attitude toward the public school.

SOME years ago an educational group undertook to catalog statements in regard to the public school and concluded, among other things, that opinion seemed to be rather evenly divided on the matter, with the extremes of praise and criticism being about equally represented. As the writer read the various statements, however, he could not help feeling that such extremes of opinion, either pro or con, did not represent the attitude of people in general; and that a canvass of the general population would probably show the attitudes of most people to fall nearer a neutral point than to either extreme. This was, of course, mere conjecture, but it seemed to be the most logical conclusion to draw in the light of the already available evidence concerning public attitude on other issues.

In approaching the problem it was obviously necessary to discover or devise some technique for measuring attitude toward the public school. A perusal of the literature revealed a number of scales for measuring attitudes toward various social institutions and agencies, but none seemed to be applicable to the problem at hand. Thus the original problem was expanded into two problems. First, some adequate measuring device had to be constructed; and second, this "measuring-stick" must be applied to the particular problem stated above. It was finally decided to construct a scale patterned after the Thurstone technique for measuring social attitudes. This particular method involves the selection of statements by statistical treatment which range from extreme favorableness to extreme unfavorableness on the attitude continuum being measured, and the incorporation of those statements into an attitude scale. A detailed description of the method is given by Thurstone and Chave.[1]

During the early stages of the study several other problems which could be investigated almost simultaneously suggested themselves to the investigator. Is there any noticeable difference between the attitudes of people having relatively high incomes and those having relatively low incomes? Do

[1] L. L. Thurstone and E. J. Chave. *The Measurement of Attitude.* Chicago: University of Chicago Press, 1929.

P. T. A. members have a more favorable attitude toward the public school than non-members? Are there any differences between the attitudes of people having different amounts of education? Are there any differences between the attitudes of people having children in school and those who do not? Are there any sex differences in attitude toward the public school? Do husbands and wives tend to hold similar opinions? Do older individuals tend to have more or less favorable attitudes than younger individuals? These questions seemed to offer certain applications of the scale which might be significant and interesting, and an attempt was made to obtain data that would provide answers to them.

THE SCALE

An original list of 135 statements gathered from current literature and student opinion was sorted into the customary eleven piles by 150 upper classmen and faculty members at Kansas State Teachers College, Pittsburg, Kansas. From the resulting tabulations a quartile-value and a scale-value for each statement was obtained graphically. The final scale of forty statements, together with the Q-values and S-values are given below. Questions preceding the scale were for purposes of correlation in making applications of the scale.

EXPERIMENTAL STUDY OF ATTITUDE TOWARD THE PUBLIC SCHOOL SYSTEM

1. Occupation ---------- Age ------ Sex ----------
2. Underline amount of schooling you have had: Less than 8th grade, 8th grade, High School, College.
3. How many children do you have in the public school at the present time? --------
4. Are you a member of the P. T. A? ----------

Check every statement below that appropriately expresses your sentiment toward the public school system.

S-value	Q-value	No.	Statement
1.9	1.5	1.	In my opinion our public schools are extremely influential in developing the character of American Youth.
6.6	2.2	2.	I believe that the public schools do not offer enough opportunities for specific trade and vocational training.
10.4	1.0	3.	I think that the American tax payers are swindled out of millions of dollars yearly for the support of that useless social ornament, the public school system.
1.2	1.6	4.	It is my opinion that our public school system is one of the greatest forces for the preserving and promoting of desirable ideals.
5.2	1.8	5.	I think that in general the public school system is a good institution, but it has a few weak points.

S-value	Q-value	No.	Statement
7.8	2.1	6.	I think that our schools coddle the pupils too much.
9.0	1.6	7.	I think the education received in the public school is altogether too superficial to be of any value.
8.8	1.8	8.	I think that the public schools fight progress in order to preserve their own vested interests.
0.6	1.2	9.	I believe that the greatest gift of the United States to democracy is free public schools.
2.6	2.0	10.	I believe that public school education is preparatory to continuous adult learning.
10.5	0.6	11.	I think the country would be better off if the schools were closed and the teachers put to some useful work.
5.8	1.0	12.	I think the services of the school system are worth to society just about what they cost. Society breaks even with the schools.
2.0	1.9	13.	I think the school is a place of useful instruction for both young and old, and is essential to every community.
10.2	0.7	14.	I see no value in the public schools.
2.8	1.8	15.	I believe that the public schools supply the child with the opportunity to learn the skills needed for business and industrial success.
8.6	1.6	16.	I think too much money is being spent on the schools for the benefits derived.
9.4	2.0	17.	I believe that the teachings of our public schools lead us up a blind alley; that is, they lead to nothing beyond themselves.
4.3	1.5	18.	I think the schools offer the answer to the problem of educating for wise use of leisure time.
8.2	2.0	19.	I believe the schools are bound hand and foot by the money interests and cannot give a truly democratic education.
1.9	1.5	20.	I believe the school is a powerful agency for promoting both individual and social betterment.
0.6	1.8	21.	I believe the public school system is the greatest institution in America today.
7.0	2.0	22.	I think the schools stress school subjects too much, and the vital problems of life too little.
10.1	1.1	23.	I think the public school system is a parasite on society.
5.2	1.8	24.	I believe that if the public school were brought up to date, it could contribute a great deal to social progress.
9.8	1.9	25.	I regard the public school system as a set and unchanging institution and as such it is unwholesome and detrimental to society and the individual.
4.0	2.4	26.	I believe that every child stands with equal rights before the school master's desk.
2.2	2.3	27.	The school is the most unselfish institution in American society today.
1.0	2.0	28.	I believe the public schools are the greatest influence we have for good government and right living.
7.0	2.0	29.	I think the schools are too idealistic, both in the subject matter they teach and in the methods they use.
0.8	1.6	30.	I believe that the public school system is America's greatest social and cultural enterprise.
4.0	2.0	31.	I think that a public school education makes it possible for a person to make more money.
4.8	1.6	32.	I believe the school system is all right.

S-value	Q-value	No.	Statement
8.2	2.0	33.	Much of the usefulness of the school system has been outlived.
5.6	1.0	34.	On the whole I believe our public school system is good, but it has many faults.
8.6	1.8	35.	I believe that the public school system is too radical; its teachings are too liberal.
5.8	1.3	36.	In general I believe the schools are all right, but I sometimes wonder about their value.
2.8	1.7	37.	I believe that the public school system educates the people to perform their duties and obligations as citizens.
8.0	2.0	38.	I think the public schools spend too much money teaching frills.
2.3	1.8	39.	I believe that the great advances made in the arts and sciences in America are due largely to the great public education system we have.
7.2	1.8	40.	I think the public school system needs a complete reconstruction of its curriculum if it is to meet modern needs effectively.

ADMINISTERING THE SCALE

Students of general psychology were asked to take the scales to their respective communities. Since the students at Kansas State Teachers College were scattered over most of Kansas, Missouri, Arkansas, and Oklahoma, it is reasonable to believe that the whole area was represented by the sample. Students were also told that information was desired from husbands and wives, and that wherever spouses filled out the scales, the two scales should be clipped together so the experimenter would know that such a relationship existed. In addition to this, those who administered the scale were asked to classify their subjects into two income groups—above $1500 and below $1500.

RESULTS

The distribution of the entire sample, 808 scores, was positively skewed, α_3 being $4.83 \pm .0084$. Figure 1 shows the distribution graphically. According to this study it seems reasonable to conclude that opinion is not equally divided between two extreme attitudes. Rather, the majority of individuals appear to possess attitudes that could be characterized as more favorable than unfavorable to the school.

Comparison of Income Groups. Scores were gathered from 383 individuals having annual incomes of less than $1,500 and 305 individuals having annual incomes of more than $1,500. Table I is a summary of the statistical treatment of data compiled for income groups.

Figure 1

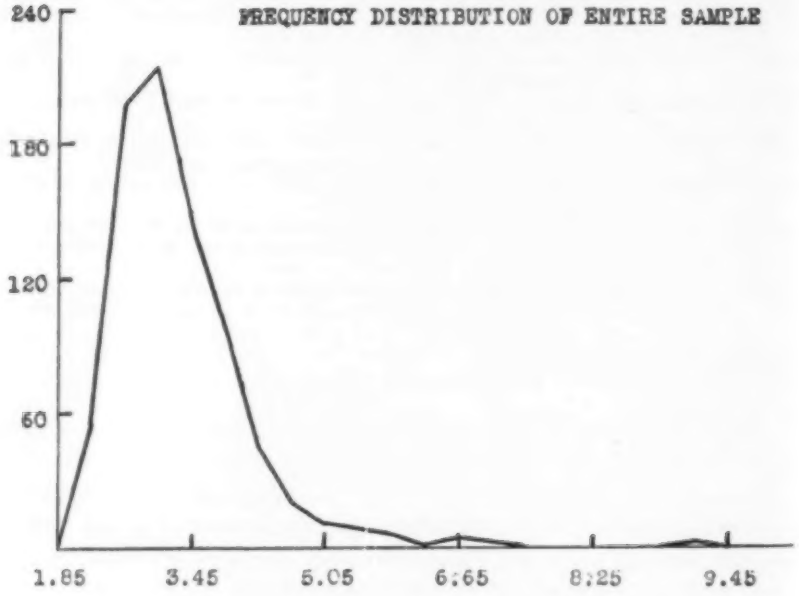


TABLE 1

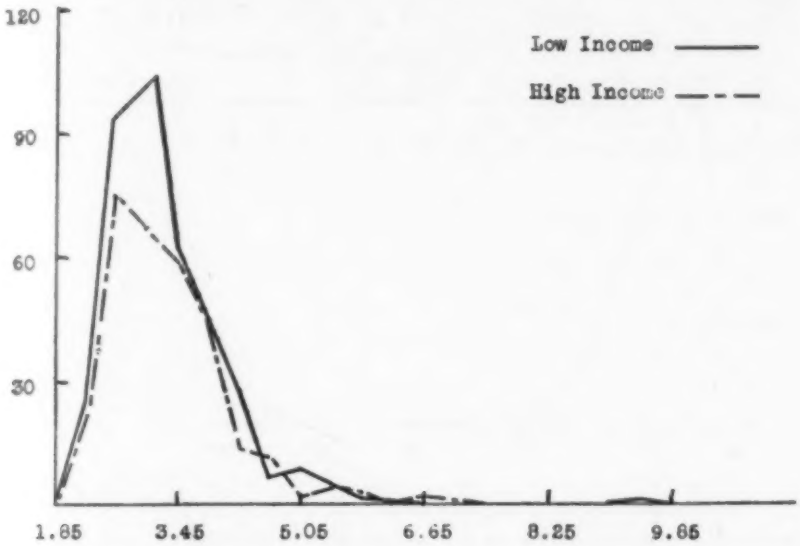
STATISTICAL COMPARISON OF INCOME GROUPS

Income Group	Mean	Median	S. D.	S. E. Diff.	Crit. Ratio
"High"	3.31	3.18	.788	.0595	$\frac{.0000}{.0595} = .000$
"Low"	3.31	3.13	.772		

These results may be interpreted to mean that economic status as such has very little if any influence upon the attitudes expressed by individuals in regard to the public school. On the other hand, these results should not be interpreted to mean that income in conjunction with other factors could not change attitude toward the public school. That problem is beyond the scope of this report. A graphic representation of this distribution for both groups is shown in Figure 2.

Figure 2

COMPARISON OF FREQUENCIES OF HIGH AND LOW INCOME GROUPS



Comparison of P. T. A. Members with Non-Members. Scores were available for 176 P. T. A. members and 609 non-members. Table II is a summary of the statistical results of data compiled for the two groups. It

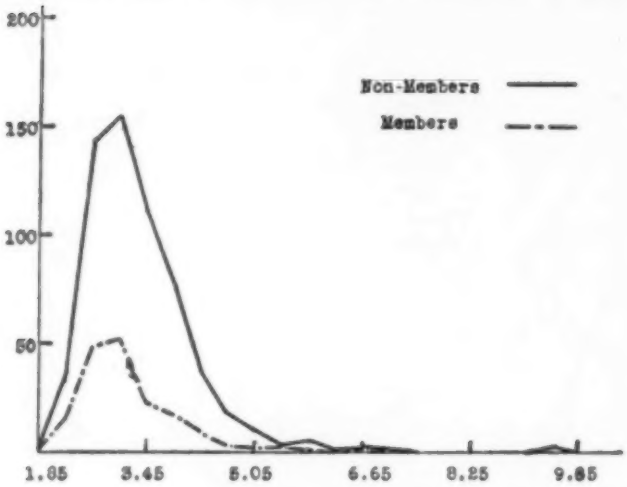
TABLE II

STATISTICAL COMPARISON OF P. T. A. MEMBERS AND NON-MEMBERS

Group	Mean	Median	S. D.	S. E. Diff.	Crit. Ratio
Members	3.225	3.04	.796	.0684	$\frac{.0950}{.0684} = 1.45$
Non-members	3.32	3.17	.820		

will be noticed from Table II that the critical ratio is 1.45 which indicates that there are 93 chances in 100 that a true difference exists. Figure 3 shows the distribution of the two groups graphically.

Figure 3
COMPARISON OF FREQUENCY DISTRIBUTIONS OF P. T. A. MEMBERS AND NON-MEMBERS



From these results it appears that P. T. A. members are inclined to be somewhat more favorable to the school than non-members. On the other hand, if there is a difference between the two groups, this difference is not as great as might be expected.

Comparison of Groups Having Different Amounts of Education. Data were available from 174 individuals having eighth grade education or less, 265 high-school graduates, and 229 individuals having at least one college degree. A summary of the statistical results from these three groups is given in Table III.

TABLE III

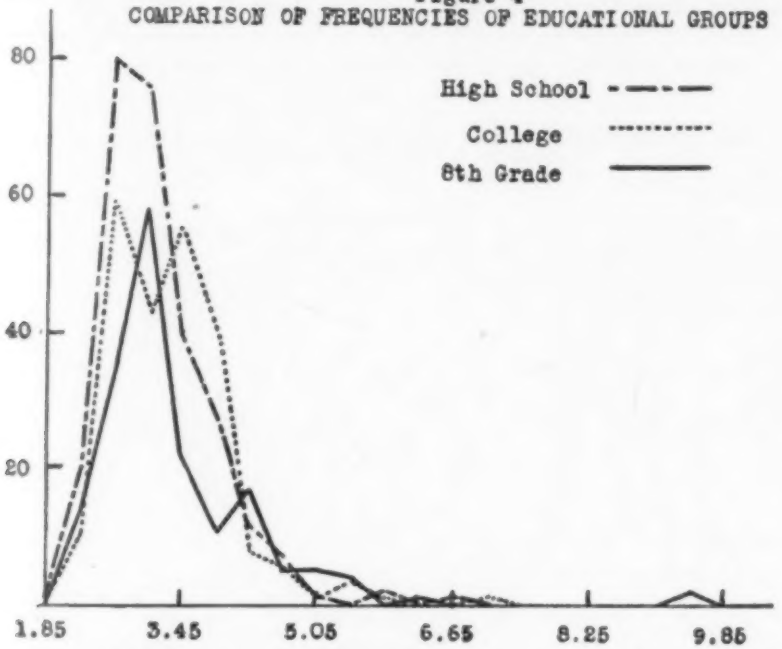
STATISTICAL SUMMARY OF FORMAL EDUCATION GROUPS

Group	Mean	Median	S. D.	S. E. Diff.	Crit. Ratio
8th Grade	3.37	3.11	1.020		
				.087	$\frac{.220}{.087} = 2.53$
High School	3.15	3.02	.668		
				.062	$\frac{.160}{.062} = 2.58$
College	3.31	3.25	.700		

From the critical ratios shown in Table III it is evident that a tendency exists for high school graduates to favor the school more than either those with less education or those with more. It is also interesting to note that the difference between those having the minimum education and those having the maximum is so small as to indicate that there is no reliable difference.

Figure 4 shows the relationship among the three groups graphically.

Figure 4
COMPARISON OF FREQUENCIES OF EDUCATIONAL GROUPS



Comparison of Those Who Have Children in School with Those Who Do Not. Scores were available for 381 individuals having children in school and 386 individuals having no children in school. It should be mentioned here that those who had previously had children in school were not distinguished from those who had never had children in the public school.

It will be noticed from the critical ratio in Table IV that there is little more than a chance difference between the attitudes of the two groups. It is possible that a comparison of those who have never sent children to the public school with those who have would yield different results.

TABLE IV

STATISTICAL SUMMARY OF THOSE HAVING CHILDREN IN SCHOOL AND THOSE HAVING NO CHILDREN IN SCHOOL

Group	Mean	Median	S. D.	S. E. Diff.	Crit. Ratio
Having Children	3.29	3.11	.876	.058	$\frac{.010}{.058} = .017$
Having No Children	3.30	3.14	.756		

Figure 5 shows a graphic comparison of the two groups.

Figure 5

COMPARISON OF FREQUENCIES OF THOSE HAVING CHILDREN IN SCHOOL AND THOSE HAVING NO CHILDREN IN SCHOOL

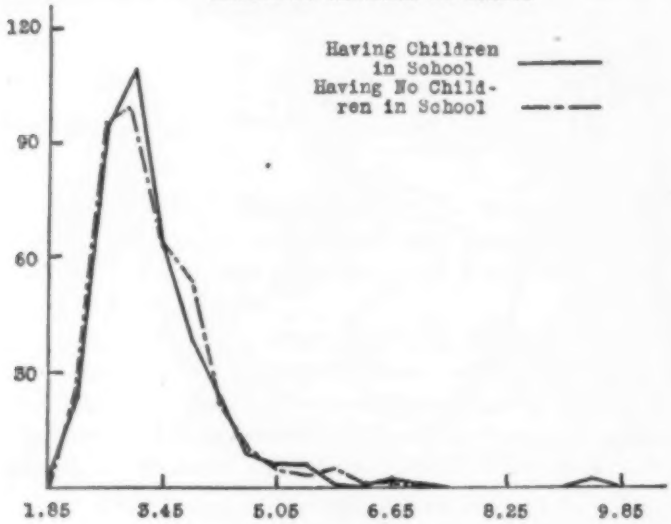


TABLE IV

STATISTICAL SUMMARY OF SEX DIFFERENCES'

Sex	Mean	Median	S. D.	S. E. Diff.	Crit. Ratio
Men	3.39	3.26	.808	.056	$\frac{.200}{.056} = 3.6$
Women	3.19	3.04	.768		

Sex Differences. Data were available for 378 men and 424 women. It will be noticed in Table IV that the critical ratio is sufficient to indicate that women are more favorable to the school than men.

Figure 6 illustrates the two groups graphically.

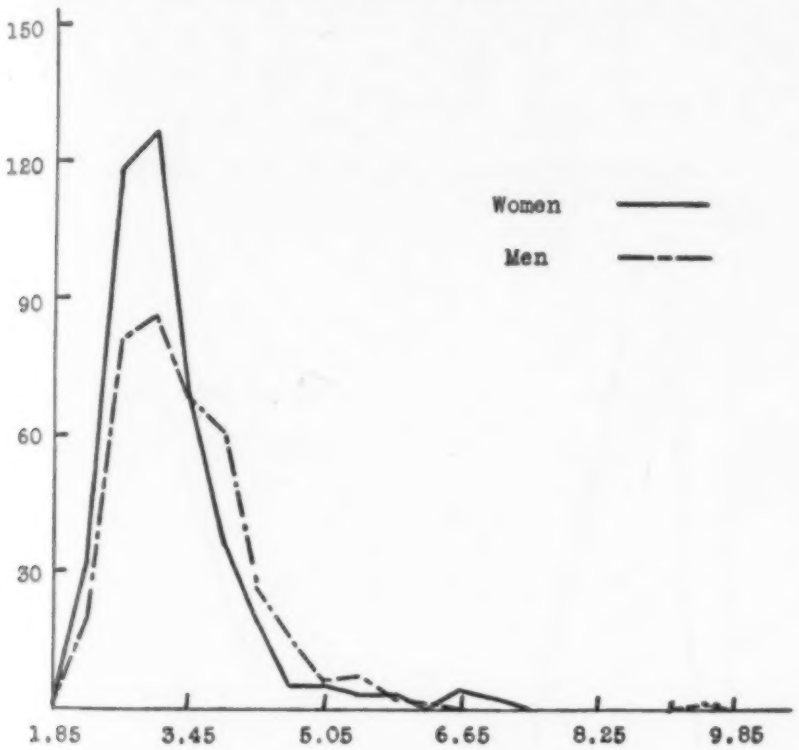


Figure 6
COMPARISON OF FREQUENCIES OF MEN AND WOMEN

Comparison of Age Groups. A line was drawn arbitrarily at forty years of age in order to determine whether younger people favor the school more or less than older people. Data were available for 381 individuals forty years of age or under, and for 345 individuals over forty years of age. It will be noticed on Table V that the critical ratio is 1.3, which indicates that there are ninety chances in a hundred that a true difference exists.

TABLE V

STATISTICAL SUMMARY OF AGE GROUP COMPARISON

Group	Mean	Median	S. D.	S. E. Diff.	Crit. Ratio
Under 40	3.35	2.96	.816	.061	$\frac{.080}{.061} = 1.3$
Over 40	3.27	3.12	.816		

A comparison of the two age groups is shown graphically in Figure 7.

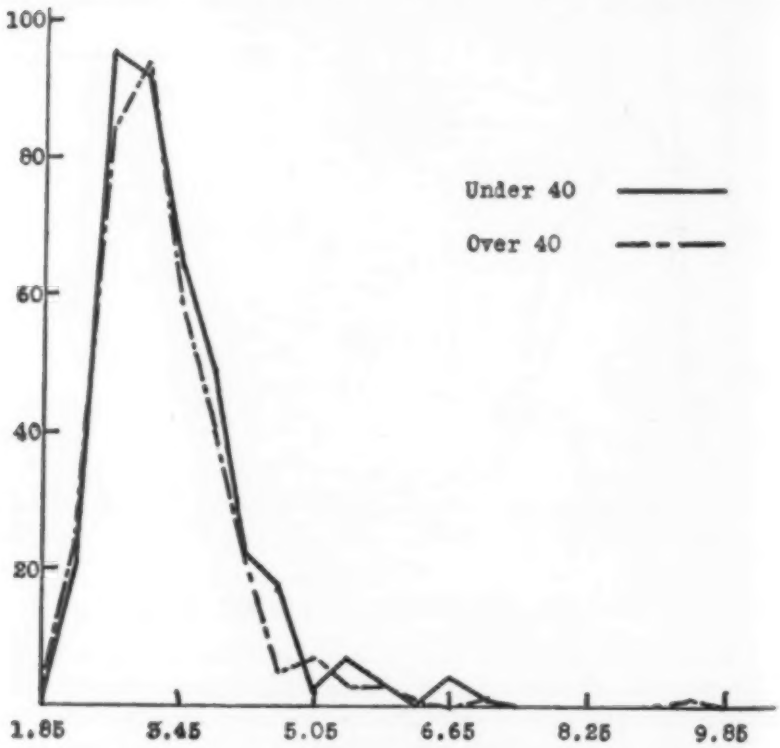


Figure 7
COMPARISON OF FREQUENCIES OF TWO AGE GROUPS

Correlation Between Husbands and Wives. The coefficient of correlation between husbands and wives (116 couples) was found to be .588 and the probable error .041. This indicates a linear relationship between the two groups, but it does not necessarily mean that their attitudes are similar.

Conclusion. Although the writer has no experiment evidence on the question, it is his opinion that an analysis of the individual statements checked by various individuals might show particular points where the school system was weak in any locality. Thus, it is probable that in addition to applications like those listed above, the scale would be of value in checking the public relations program of any school. Certainly if such were feasible, the scale and others of its kind would be a boon to those endeavoring to administer the affairs of educational institutions.

EDITORIAL

MORE ABOUT EVALUATION

THE symposium on Evaluation in the March, 1942, issue of the *Journal of Educational Research* is most timely. It contains nothing to which anyone could object and will be of great value in stimulating further thought concerning this most important matter. But the discussion as a whole seems rather incomplete under present conditions. Wars have a way of compelling fundamental re-evaluations. The Civil War brought a new evaluation of slavery and states rights. The first World War and the present conflict originated in wrong evaluations and will lead to many evaluations that are new. Conflicting evaluations are all about us. Let us look at some examples. In recent years we have seen Communism identified with a nameless thing that is both frightful and unspeakably evil. But many righteous and God-fearing people have also identified Communism as the economic system used by Jesus Christ and his disciples. What *is* communism anyway? What is a correct evaluation of it? All Russians have been identified as communists and "reds." Now by a queer prank of fate it would seem that these Russians whom we evaluated as "bad" and even as "unspeakable" are helping to rescue us from destruction. In Hugo's "Les Miserables" policeman Javert evaluated Jean Val Jean as a criminal and hated him. Then Jean Val Jean saved Javert's life. The resulting situation presented the redoubtable sleuth with a problem in evaluation which he could not solve so he committed suicide. We shall not commit suicide over Russia but we are compelled to make a fundamental re-evaluation of that country.

There is considerable evidence to show that in most cases, personal maladjustments, misery, and even insanity are due to errors in evaluation. To make matters infinitely worse most of these wrong evaluations are of a subconscious nature. We do not know that we have them and for that very reason they are most powerful. Let us look at some of the subconscious misevaluations that have covered the pages of history with blood. For ages men believed that the earth is the center of the universe, that the sun really

rises and sets. We are now aware of the falsehood of that evaluation but a truer evaluation was attained only after generations of persecution and bloodshed. For ages mankind believed, also, that the earth is flat. Every student of history knows the horrors that resulted from that wrong evaluation. Today we are in the midst of a stupendous conflict that is the result of ages of mis-evaluation. The source of the trouble is ascribed to Aristotle though he merely transmitted it as a subconscious evaluation which he had received from previous ages. Most of the mis-evaluation seems to radiate from the belief that man is an animal. By a happy chance this notion did little harm until Darwin and others also identified man as a species of animal. After that, it was not long until two monstrous corollaries emerged as further mis-evaluations, namely, the survival of the fittest, and the belief that might makes right. Hitler's hosts today are unconsciously activated by these wrong evaluations.

We have all been taught that all men are equal in the sight of God but there is hardly any one who will accept God's evaluation of mankind. Each person thinks his own race is better than any other. Which evaluation is more nearly correct, man's or God's? Whatever the answer may be it is now apparent that man's evaluation can get him into trouble at this point. Hitler identifies the Germans as Aryans, the producers of civilization. The rest of us are identified as either half-apes or parasites. We can not live in a world in which such utterly false evaluations are on the rampage. This war is really a war unto death. There can be no compromise.

In the face of all this why have the Malays and the Burmese acted so treacherously towards the English? Why does India hesitate to fight the Axis powers? Why have the Filipinos been so loyal in the present emergency? Why do many people hate the Jews, the Negroes and the Japanese? Why do they so fanatically subscribe the all-or-none principle? Why are they unwilling to admit that there can be any good people at all among the non-English races? Why is it necessary for the United States Army to evacuate *all* of the Japanese from the Pacific Coastal regions *"for their own protection"* as well as that of the United States? When a correct answer is found for these questions we shall have uncovered a number of false unconscious evaluations which exist in the minds of our people.

The foregoing discussion should be sufficient to raise into the clear the vital importance of correct evaluation in realms beyond the sphere of the

professional educator. It may also be worth while to point out a few instances of subconscious false evaluations which seem to exist inside of our profession. Let us take for our first example the identification of certain aspects of life as a sum of the elements that are supposed to be its constituents. It has been assumed that teaching ability is equal to the sum of some 1000 elements properly weighted and added together, that educational guidance can be successfully arrived at through a process of addition. Correlation coefficients and techniques of multiple and partial correlation have acquired great prestige, yet all of them are based upon the subconscious assumption of the validity of additivity. Efforts to measure performance in subject matter, intelligence, attitudes and the like apart from each other assume that personality is equal to intellect plus affective states. The principle of additivity unfortunately meets with a serious obstacle in the aspect of a little thing called the common denominator. In elementary arithmetic the child learns that the principle of additivity can not be applied until a common denominator has been found. This small matter seems to have been forgotten by many of our investigators who use partial correlation techniques. One really can not add inches and seconds or intellect and attitude. In short, correlation coefficients and partial correlation techniques are valid in so far as life can be explained in terms of additivity. In so far as life can not be thus explained they are delusional. In like manner the measure of attitudes taken alone can be defended only in terms of the principle of additivity. No one questions the fact that 2 apples + 2 apples = 4 apples but there is serious doubt concerning the validity of such statements as NaCl = Na + Cl, a resultant equals the sum of its components, man equals body plus soul, and personality equals the intellect plus attitude. In the case of the apples we can take each pair of apples separately, measure and evaluate them; but an assumed similarity in the other cases may well be delusional.

As a second example, it seems likely that we also have been seriously misled by a subconscious assumption that man is an animal. Our educational literature is full of studies of how cats, rats, and other animals learn. This means that we assume that children learn just as animals do, an assumption which in turn carries the hidden identification of children with cats and rats. When this matter was called to the attention of one group of educators recently one man remarked, "Some children *are* rats." In like manner some children say that their teachers are "rats." This sort of language has a

meaning but it can hardly be called scientific. If children are *not* animals it is delusional.

The role of mis-evaluation as a cause of human unhappiness is particularly sinister. Wrong personal evaluations somehow get clothed with tempestuous and disastrous emotional concomitants. I recently talked to a big girl who was very unhappy because someone had called her a cow. The traditional and unfailing way to start a personal war on a play ground is to tell some boy that he has dogs among his ancestors. The thought that "I am a dumb bell" can effectually prevent the progress of a student in college. The idea that "I am one who has committed the unpardonable sin" can send many people to a mad house. All of these evaluations are mostly if not entirely false and delusional. No girl is, or ever will be, a cow. The possibility of a dog being among one's ancestors is utterly absurd. Yet a very large part of human unhappiness springs from just such senseless evaluations as these.

All mis-evaluations spring from wrong identifications. In fact there are some who say that all identifications are false, that it is always untrue to say that A is B, or that A is A except at a given instant of time. If this is true, the bottom is knocked from the entire subject of logic. But aside from this, the identification of things belonging to different levels or orders is obviously wrong. If human beings are of a higher order than animals it is simply delusional to identify any human being with any animal. If all men are really equal in the sight of God one can not identify any race as chosen people. Hitler's identification of certain races with half-apes is delusional because there are no such creatures as half-apes.

Disastrous also is the type of evaluation which identifies parts with wholes even on the same level. If Mr. A has learned to hate one Jew and then automatically comes to hate all Jews, he is becoming psychopathic. Of similarly delusional character is the thinking of those who argue that since some Japanese did us a "dirty trick" at Pearl Harbor, we shall do a like dirty trick to some other, any other, all other Japanese wherever and whenever we find them. And what shall we say of the proposal to interne as enemy aliens those who came to us to escape the fury of Hitlerism?

Since we got into our present mess through wrong evaluation, it seems reasonable to hope that a truer evaluation will help to get us out of it. A searching examination of our unconscious beliefs would seem to be of para-

mount importance but this is impossible as long as they remain unconscious. This means that each and every one of us should continually give careful and prayerful attention to the question "How much 'ballyhoo' am *I* believing?" The time for soul-searching is opportune. The need for hard straight thinking was never more insistent. The symposium in the *Journal of Educational Research* has given us a splendid start. Let us now proceed with our evaluating being sure to start as near to the bottom as possible. After we have built a truer foundation, there is every hope that we can then erect a sounder and more permanent superstructure. In such a vital undertaking Educational Research can and should play a prominent part.

W. J. OSBURN.

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Address all communications relative to research abstracts and bibliographies to A. S. Barr, University of Wisconsin, Madison, Wisconsin.

BULLETINS

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In a study of Ohio the reasons were found to be: lack of equipment, school schedule difficulties, teacher animosity toward radio, radio programs not coordinated with classwork, and lack of information concerning available broadcasts.

ROWLAND, HOWARD, TYLER, I. KEITH, and WOELFEL, NORMAN. *Criteria for Children's Radio Programs.* Bulletin No. 40. Columbus, Ohio: Evaluation of School Broadcasts, Ohio State University, 1942. Pp. 17.

Specific criteria are developed under three categories relating to: ethical, moral, and social ideals of American life; emotional, intellectual, and social development of the child's personality; showmanship and entertainment values.

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An evaluation of the 1938–39 Series "A", the general purpose of which was to acquaint students in grades three through eight with orchestral instruments.

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An inventory of the practices of the Extension Service, with the conclusion that there is no favoritism with respect to areas.

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The second of a series of bulletins prepared by the Division of Tests and Measurements, discussing newer concepts of reading as they affect measurement of pupil abilities. An annotated bibliography lists selected standardized tests.

Research News and Communications

Address all research news and communications to Carter V. Good, Teachers College, University of Cincinnati, Cincinnati, Ohio.

SELECTED BIBLIOGRAPHY ON THE METHODOLOGY OF EDUCATIONAL, PSYCHOLOGICAL, AND SOCIAL RESEARCH, 1941–1942

CARTER V. GOOD
University of Cincinnati

This is the thirteenth annual bibliography on the methodology of research to be published in the *Journal of Educational Research*. These bibliographies over the past few years have included an increasing number of references from psychology, sociology, and scientific method in general—a development that has rendered desirable the revision of the caption of this compilation, as recast at the top of this page. Each of these areas has much to learn from the other, especially with respect to methods of research and their applications.

This compilation covers approximately the period from July 1, 1941, to July 1, 1942. The earlier bibliographies, as a rule, have appeared in the September number of the *Journal*.

The more comprehensive treatments in the first division of the bibliography include analyses of: urgent problems facing education (American Council on Education), needed studies in adult education (Institute of Adult Education), research topics in public assistance programs (Charnow), current educational issues (Geyer and Others), and recent developments in social psychology (Cottrell and Gallagher).

In the second division the library and research guides include: research and statistical methodology (Buros), doctoral dissertations (Henry), graduate theses in education (Gray), dictionary of philosophy (Runes), directory of American scholars (Cattell), reference books (Winchell), library guides for educational research (Thorpe), and bibliographies on Dewey (Thomas), pediatrics (Mitchell), teacher education (Frazier), educational broadcasting (Cooper), and adult education (Beals and Brody). Limitations of space have made it necessary to omit some thirty references representing the published abstracts of theses completed at higher institutions. Such titles may be found in the annual *Bibliography of Research Studies in Education* (Gray), published by the U. S. Office of Education.

The third section of the bibliography reveals an unusually productive year in terms of books on research methods: scientific method in general (Humby and James, Lundberg, McConnel and Others, Porterfield, Foerster and Others), his-

toriography (Kent, Schmitt, Teggart), evaluation and appraisal (Brown, Greene and Others, Nelson, Smith and Others), interview (Bingham and Moore, Oldfield), case study and case work (Allport, Aptekar, Madden and Compton, Robinson, Schweinitz and Others, Speck, Towle, Wilson, Young), psychiatry (Ebaugh and Rymer, French), genetic method (Gesell, Dearborn and Rothney), statistics (Guilford, Hagood, Lindquist, McCormick, Mode), and semantics (Lee, Hayakawa, Korzybski, Walpole).

Among the more comprehensive evaluative statements in the fourth section are those by Leonard and Others, and by Wilson and Others. The present world scene is reflected in a large number of discussions of science and research in relation to: social progress, human values, ethics, civic morals, social policy, democracy, government, war, and defense.

In the last division are: advanced training of school administrators (Lund), the university professor (Wilson), philanthropic foundations (Seybold), history of the American Educational Research Association (Buckingham), activities of the Office of Education (Studebaker), and the activities of the American Council on Education.

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